The Link between Social Representations of HIV/AIDS and Sexual Behaviour amongst Young People in Ghana and the U.K.

by

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Abstract

The social representation approach to understanding HIV/AIDS focuses on the ideas about the disease that are current in a society. A major claim arising from this approach is that blaming others for the spread of the disease allows individuals within the mainstream society to feel relatively safe from the disease, and so they do not take sufficient steps to protect themselves against the disease. This hypothesis was tested in three questionnaire studies involving two samples of young people from Ghana (N=460 and N=238) and one from the U.K. (N=221). Blaming others was measured in terms of beliefs about the origins of HIV/AIDS; blaming attitudes towards specific marginal groups within society; and stigmatizing attitudes towards those with the disease. The results of these studies provided some evidence in support of the hypothesis in relation to stigma (but not the other blaming variables). In both studies, there was a significant association between greater stigmatizing attitudes and reduced intentions to practice safe sex; and this relationship was mediated by reduced perceptions of vulnerability to the disease. Stigmatizing attitudes made a significant unique contribution to the variance in sexual intentions over and above the contribution of variables derived from the theory of planned behaviour and the health belief model. A large percentage of the Ghana samples showed negative attitudes towards condom use and stigmatizing attitudes towards those with HIV/AIDS, indicating a need for social policy to address these issues.

Dedication

To my sisters and my friends Dr Cynthia Bannerman and Dr Moses Adibo

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Chapter One

1.0 Overview of HIV/AIDS Epidemic

1.1 Global Statistics

The HIV/AIDS pandemic continues to be a major challenge to global health. Since scientists in the United States reported the first clinical evidence of a disease that later become known as Acquired Immunodeficiency Syndrome (AIDS) in June 1981, the AIDS virus (human immune-virus - HIV) has spread to every corner of the world (Centers for Diseases Control [CDC], 2001; UNAIDS, 2006). *AIDS update* (UNAIDS, 2008) indicated that more than 65 million people have been infected and 25 million have died from AIDS. The report further states that, during 2007, an estimated 33 million people were living with HIV and two million people died from AIDS. This year an estimated 13 million children under age 15 lost one or both parents to AIDS (UNAIDS, 2008). There were 2.7 million new HIV infections in the same year. UNAIDS (2008) further indicated that globally, young people aged 15–24 accounted for 45% of all new HIV infections. Women constitute about half of all HIV infections. Countries in sub-Saharan Africa continue to be the hardest hit with 67% of the infections occurring there; followed by the Caribbean, some parts of Eastern Europe and Asia (UNAIDS, 2008). According to the 2007 report, AIDS was the leading cause of death among adults aged 15 to 59 years in the most affected sub-Saharan African

countries (UNAIDS, 2007). Life expectancy has dropped from the levels they would have been without AIDS in most these affected sub-Saharan African countries (UNAIDS, 2008).

1.2 Global Response to HIV/AIDS Epidemic

Scientists responded quickly to the threat by identifying the aetiology, pathogenesis and modes of transmission and how to prevent its spread. The scientists are also developing diagnostic tests and treatments in an attempt to stem its spread. It was therefore recognized early that there is no 'one-size-fits-all' remedy for the spread of HIV infection (Lamptey & Gayle, 2001; Lamptey, Johnson, & Khan, 2006). Sexual behaviour(s) and patterns of sexual networks were found to be the most important factors associated with the spread of HIV/AIDS (Lamptey & Gayle, 2001). With no cure or vaccine in sight (Ho & Bieniasz, 2008), prevention of HIV/AIDS can be considered vital. Consequently international and governmental agencies are working in concert to prevent the spread of HIV by promoting safer sex mainly through the use of the **A**bstinence or delaying sexual initiation, **B**eing faithful to one's partner(s) and **C**ondom use model (*ABC* model, FHI, 2001; Hogle, Green, Nantulya, Stoneburner & Stover, 2002; USAID, 2002). The media both electronic and print are used to promote safer sex. In sub- Saharan Africa, musicians and other artistes have been involved in the safer sex promotions. These preventive activities have cost unparalleled financial resources; yet, HIV/AIDS continued to spread rapidly across wide

because many people still do not protect themselves adequately. UNAIDS (2007) have suggested that, worldwide, the number of people living with HIV has continued to rise due to annual new infections that exceeds AIDS deaths and population growth and the life prolonging effects of antiretroviral therapy (ART). The ART which is widely available throughout North America and Western Europe has greatly reduced AIDS-related deaths but has also increased the number of people living with HIV (UNAIDS, 2006). New longitudinal studies (Marston et al., 2007; Todd et al., 2007; UNAIDS, 2006) indicate that, in the absence of treatment, the estimated median survival time after infection with HIV is 11 years, instead of the previously estimated 9 years (UNAIDS, 2002).

1.3.0 Psychologists' Response to HIV/AIDS

1.3.1 Cognitive Behaviour Models

It is essential in the fight against AIDS to understand why people do not practice safe sex despite awareness of the disease and an understanding of how to protect one's self from HIV infection. Various approaches have therefore been used to address this question. The dominant approach has been to use the Social Cognition Models of health behaviour, such as the Health Belief Model (Rosenstock, 1966; Rosenstock, Strecher & Becker, 1988, 1994) and the Theory of Planned Behaviour (Ajzen, 1991). These are models originating within Western psychology that have been used to explain why people do/do not engage

in health-promoting behaviours across a wide range of conditions and contexts. In terms of HIV/AIDS the models propose that people are more likely to adopt safer sexual behaviours if they recognize themselves as susceptible to HIV infection; believe the consequences of HIV infection are serious; believe that their action (e.g. abstinence, faithfulness or condom use) could prevent HIV prevention; and believe the costs of safer sex are comparatively low and that they personally can successfully carry out the behaviour required to produce the desired outcomes. The TPB assumes that, given a sufficient degree of actual control over the behaviour, individuals will carry out their intentions when the opportunity arises (Ajzen, 1991; Ajzen & Fishbein, 1980).

Despite the widespread popularity of these approaches, their application, specifically in AIDS research, has come under increasing criticism. This is mainly because the approach is based on the idea that health-related behaviour is simply the product of a rational process, in which the person weighs up the advantages and disadvantages of the different courses of action. It gives insufficient weight to the contribution of emotional, social and cultural factors. Even when these factors are considered within the models (e.g. 'subjective norms' within the Theory of Planned Behaviour gives some consideration to social influences), their impact is viewed as operating through, rather than separately from, the process of rational consideration assumed to underlie behaviour. In other words, the models do not leave room for the possibility that people's behaviour is not always the product of rational consideration. Evidence to support these criticisms comes from the fact that there are few studies in which the amount of variance in sexual behaviour explained by the models is reasonably

high (Bryan, Fisher & Fisher, 2002; Sheeran, Abraham & Orbell, 1999; Gredig, Nideröst & Parpan-Blaser, 2006; Schwarzer, 2001; Webb & Sheeran, 2006). Also a number of studies (Aggleton, 1996; Kelly, Parker & Lewis, 2001; Parker, 2001, 2004) point out that in many cases, motivations for sex are complicated, unclear and may not be thought through in advance. As Kelly et al. (2001) have argued that, a behavioural outcome is often a product of a complex interplay of intentionality, communality and sociality even though it may appear to derive from a cognitive intention. Furthermore, the studies based on these models often try to explain the intention to engage in safe sex, rather than whether people have actually engaged in safe sex. Evidence suggests people's intentions do not appear to be that great an influence on their actual behaviour in a sexual context. Intentions have been found to have less impact on behaviour when there is potential for social reaction, when there is lack of control over the behaviour and when circumstances of the performance are conducive to habit formation (Webb & Sheeran, 2006). These are circumstances that often apply in relation to sexual behaviour.

1.3.2 Social Representations Theory

In the context of these criticisms, alternative approaches to the study of safe sex behaviours have become increasingly popular; particularly those that attempt to address social and cultural factors. One of these uses Social Representation Theory (SRT, Moscovici, 1981). This is a socio-psychological approach to how people make sense of a newly encountered phenomenon. The theory was

developed by Serge Moscovici in 1961. He conceived of social representations as set(s) of concepts, statements and explanations originating in daily life in the course of inter-individual communications; they are the equivalent of myths and belief systems of traditional societies and the contemporary version of common sense.

The SRT has been applied to the understanding of HIV/AIDS (e.g. Campbell, 2003; Campbell, Foulis, Maimane & Sibiya, 2005; Campbell & MacPhail, 2002; Howard, 2006; Joffe, 1999; Joffe & Bettega, 2003; Luksik, & Rusakova, 2001; Niehaus & Jonsson, 2005). A major idea that has arisen from this approach when applied to AIDS is that societies, when faced with the anxiety and fear provoked by AIDS, respond by blaming social out-groups for the disease. This has the benefit of reducing society's anxiety, because the disease comes to be seen as a problem for the out-groups and not for the mainstream in-group. But it has the disadvantage that those in the in-group do not see the disease as a threat to their group, and consequently do not take adequate precautions in their sexual behaviour. For convenience, we shall call this claim the "Social Representation Hypothesis". Various studies have claimed to support this view (e.g. Campbell, Nair, Maimane & Nicholson, 2007; Deacon, 2006; Deacon, Stephney, & Prosalendis, 2005; Goodwin, Kozlova, Nizharadze & Polyakova, 2004a, b; Joffe, 1995, 1999; Joffe & Bettega, 2003). For example, Joffe and Bettega (2003) found that their sample tended to blame out-groups for the spread of the disease, and reported low perceptions of their own risk. But a major criticism of this approach is the weakness of the methodology. The evidence basically consists of reports that blaming out-groups and perceived low personal risk co-occur in a

sample. This is not particularly convincing evidence for claiming that blaming others for HIV leads to reduced caution in sexual behaviour via the mediation of a reduced sense of risk. The fact that both occurred in a sample is not evidence that one led to the other, and there is no evidence presented about the reduced sense of risk leading to reduced safety in sexual behaviour.

A more robust method of gathering support for the claim may be derived from the consideration of individual differences and the statistical relationship between those differences. Individuals within a society undoubtedly vary in terms of their blaming attitudes, their individual perceptions of risk and the safety of their sexual behaviour. If the Social Representation Hypothesis is valid, then one would expect that those with more blaming attitudes would engage in more unsafe sexual behaviour; and that this latter relationship would be mediated by a reduced sense of personal risk.

Study Aims

The present research had a number of aims:

- The main aim was to subject the Social Representation Hypothesis to a more rigorous empirical test by means of investigating individual differences.
- Another aim was to compare the explanatory power of the distancing variables (i.e. those associated with the Social Representation Hypothesis) in relation to sexual intentions and behaviour with the explanatory power of the variables associated with one of the major cognitive models (specifically, the

theory of planned behaviour). If they have as much explanatory power, then this supports the criticisms of the cognitive approach that it neglects other important types of variable.

- In the initial studies of this research it was found that distancing attitudes were associated with greater safety in sexual intentions and behaviour, and that this was mediated by a reduced sense of risk. Further studies were conducted with the aim of shedding further light on this relationship between blame and sexual safety. Specifically, it looked at the relationship in the context of some broader, more established psychological constructs – specifically, generalised self-efficacy, locus of control and just world beliefs.
- In the process of investigating these aims, a large amount of data was collected about the beliefs, attitudes and behaviours amongst young people in Ghana (and, to a lesser extent, the U.K.) related to safe sex.
- A final aim was to collate this data, to consider similarities and differences between the two cultures, and to reflect on the practical significance of the findings in the Ghanaian context.

Young people in Ghana and the U.K. were selected for a number of reasons. Evidence suggests that safer sex practices among young people could help stabilize HIV /AIDS prevalence across the world (UNAIDS, 2007). Also, young people's lives continue to be significantly affected by HIV/AIDS because of unsafe sex. Global reports on AIDS (UNAIDS, 2008) indicated that young people aged 15–24 accounted for an estimated 45% of new HIV infections during 2007. During 2006 young people less than 25 year of age accounted for half of all new HIV infections worldwide (UNAIDS, 2007). Among Ghanaians, 30% of the new

infection occurred among that age group during 2007 (NACP, 2008). Reports from the UK suggests that the UK Government's key target for a 25% reduction in newly acquired HIV infections by 2007 (DH, 2001) was also not met (DH, 2005). New diagnoses have increased significantly and so HIV/AIDS prevalence is still increasing in the country (EuroHIV, 2006, 2007; HPA, 2008; UNAIDS, 2008).

Summary of the Studies

Six studies were undertaken:

- The first two formed a smaller-scale pilot study conducted in UK with adolescents aged 15-17, and comprised a qualitative (Study 1) and a quantitative study (Study 2).
- The next two studies were conducted in Ghana with students aged 16-26 years. The students were from selected secondary schools and a university. The studies provided the main test of the Social Representation Hypothesis. Again, there was a qualitative (Study 3) and a quantitative study (Study 4). The aim of the qualitative studies (1 and 3) was to generate ideas about the factors and language that were relevant in that culture to the issues under investigation.
- In study 4, it was found that there was an association between distancing attitudes and unsafe sex, and that this was mediated by a reduced sense of

risk. Study 5 tried to shed further light on this association using broader psychological constructs such as locus of control. This fifth study was a quantitative study conducted in Ghana with students aged 15 - 22.

- Study 6 was a straightforward replication of the fifth study using students in the U.K. aged 18 to 29 years.

1.5 Overview of thesis

The lay-out of the thesis is as follows: Chapter 2 provides an overview of the cognitive approaches and the criticisms that have been levelled against them. Chapter 3 considers SRT and the specific Hypothesis about AIDS that has been suggested. Evidence relating to the Hypothesis and the design of the study were also reviewed there. Chapter 4 and 5 describe the initial pilot studies and justifies the various methods that were used in the empirical studies that were conducted in the U.K in preparation for the main studies in Ghana. The latter (study 3 and 4) are then described in Chapters 6 and 7. Chapter 8 describes a second quantitative study in Ghana (study 5) that sought to replicate some of the findings from the first study and to investigate further some of the associations observed in that first study. Chapter 9 describes a replication of the second Ghana study that was conducted using a U.K. sample (study 6). Chapter 10 relates the results of previous surveys and considers similarities and differences between the U.K. and Ghana. Chapter 11 provides an overall summary, a discussion of the research's limitations and reflection on its significance.

Chapter Two					
Table 1			**Literature Review**		
No.	**Authors**	**Participants**	**Measures**	**Results**	**Comments**
1	de Paoli, Manongi, Klepp (2004)	500 pregnant women in Tanzania. Mean age = 25 (range 16 - 44 years)	HBM variables- perceived susceptibility, severity, barriers and Cue to action. Demographic variables: Outcome variables: willingness to accept VCT	All the variables except perceived barrier significantly associated with willingness to accept VCT. Perceived self-efficacy was the strongest predictor ($r = .451$, $p < .001$), Barriers ($r = .335$, $p < .001$), susceptibility ($R= .261$, $p < .001$), severity ($r = .183$, $p< .001$), Cue to action (Knowing someone with AIDS- $r = .163$, $p< .001$; Ever tested for HIV and HIV/AIDS/MTCT Knowledge not significant). Total variance in explained in willingness to accept VCT was 41.7%. Barrier and cue to action did not contribute to model. Religion was associated with willingness to accept VCT (explained 1.5% of the variance).	Perceived benefit not included in model. Focus groups used to assess benefits Weak alpha (α): barrier.64; cues to action 61.
2	Vermeer, Bos, Mbwambo, Kaaya and Schaalma (2008)	186 medical students in Tanzania. Mean age 24.9 (SD: 2.03).	HBM variables - perceived susceptibility, severity, perceived barriers and benefits, perceived self-efficacy. Fear of being HIV-positive. Outcome variables - intention to use VCT services, sexual risk taking.	Significant contributors were: perceived self-efficacy ($\beta = .28$), susceptibility ($\beta = - .17$) and fear of being HIV-positive ($\beta = - .22$). Perceived severity and barrier not significant. No association between perceived susceptibility and sexual risk taking. Total model explained 31% of the variance in intention to use VCT.	α: perceived susceptibility $\alpha = .63$

3	Agha S. (2003)	2,213 sexually experienced Kenyans (863 males, 1,350 females). Aged 15 – 39 (1,084 unmarried). 929 had secondary education or higher.	HBM variables: personal risk perception, self-efficacy, perceived benefit and barriers and cue to action. Demographic variables: Outcome variables: condom use at last sex.	All the variables were significant predictors of outcome variable. The corresponding relationship between condom use and the variables were: risk perception (R = .43, p <.001); self-efficacy (R = .50, p <.001), benefit of condoms (R= .30, p < 001), perceived barrier (R = .35, p <.001) and reduced embarrassment in purchasing condoms (R = .23, p <.001). Greater exposure to branded messages increased with higher perceptions of vulnerability, severity of AIDS; higher self efficacy beliefs and benefits and reduced perceived barrier. Younger and urban respondents and the males were less likely than older, rural and females to have higher efficacy beliefs. Higher educational attainment was associated with greater perceived self-efficacy.	No report on total variances explained by model.
4	Adih and Alexander (1999)	601 sexually active young men from one District in Ghana. Mean age 20.8 (range = 15 –24).	HBM variables: perceived susceptibility to HIV infection, perceived benefits and barriers, self-efficacy to use or have a partner use a condom. Other variables: perceived social support, age at first sex, number of sexual partners.	All HBM variables except perceived benefit from condom use significantly correlated with ever used condoms but not last condom use. Higher perceived susceptibility and lower barriers were associated with greater likelihood to use condom at last intercourse, compared with high susceptibility and high barriers or low susceptibility and high or low barriers (5.9 times). Higher self-efficacy and low barriers were associated	Severity and Cues to action not tested. α for susceptibility = .65. No information on the total

			Demographic variables Outcome variables - ever used condom, used condom at last sex.	with higher condoms used compared to higher self-efficacy and high barriers; or low self-efficacy and high and low barriers. Perceived barriers significantly mediated perceived susceptibility and self-efficacy. Those with higher education, multiple partners and older participants were more likely to have use condoms at last sexual intercourse.	variance explained by the model.
5	Mulatu, Adamu and Haile, 2000	367 sexually active high school students in Ethiopia. Mean age not provided	HBM variables - perceived threat, perceived benefits and barriers to condom use, self-efficacy beliefs about condom use, cues for action (knowledge of HIV/AIDS and someone with HIC/AIDS). TPB variable: subjective norms. Demographic variables Outcome variables - past condom use, intended condom use. Past risky sexual behaviour.	All HBM variables except cues-to-action were significantly correlated with both outcomes. Perceived threats with both past and intended condom use ($r = .21$, $p<01$ and $r = .54$, $p<001$). Benefit was the strongest predictors of both past and intended condom use ($r = .43$, $p<001$ and $r = .74$, $p<001$). Barrier had the weakest predictions ($r = - .14$, $p<05$ and $r = - .16$, $p<05$); self efficacy and past and intended safe sex were $r = .39$, $p<001$ and $r = .44$, $p<001$. HIV/AIDS knowledge with past and intended condom use ($r = .28$, $p<001$ and $r = .29$, $p<001$), knowledge of someone with HIV/AIDS was indirectly related to higher levels of intended condom use. Total model accounted for 40% of variance in past use and 62% of intended use. Subjective norm with past and intended condom use ($R=.13$, $p<.05$; $R=.36$, $p<.001$). Risky sexual behaviours not related to intended condom use. Only family socio-economic	Barrier: physical and emotional discomfort associated with condom use, and romantic disadvantages shame, trust etc.

				status was associated with past condom use (R=.13, p<.05).	
6	Mashegoane, Moalusi Ngoepe and Peltzer (2004)	294 sexually active undergraduate students in a university in South Africa (130 males and 164 females). Mean age 22.6 (range = 16 - 40).	HBM variables: - perceived susceptibility and severity perceived benefits and barriers and self-efficacy. TPB variables: attitudes towards condoms, subjective norms Outcome variables: risky sexual behaviours, intention to use condoms	Males: perceived benefit and barriers, and attitudes to condoms were positively associated with outcome variables. Females: subjective norms and perceived self-efficacy and attitudes were a positively associated with outcome variables. The odd of using condom with increased self efficacy was 2.2. Attitude was the strongest predictor of condom use for both males and females (β= .34)	Combined HBM and TPB variables. Did not include perceived susceptibility and severity variables in the model.

7	Sayles, Pettifor, Wong, MacPhail, Lee, Hendriksen, Rees and Coates (2006)	7,409 youth (males = 3,519; females = 3,890), Aged 15 - 24 in South Africa. Data was from 2003 national reproductive health survey	HBM variables: self-efficacy to negotiate and use condoms. Perceived susceptibility and severity of HIV, cues-to-action (have ever spoken with someone about AIDS), barrier and life goals. Demographic variables. Outcome variables: condom use at last intercourse, consistent condom use.	Higher condom use self-efficacy associated with greater likelihood to use condoms with their most recent partner and consistent condom use for both genders. Males: factors significantly associated with both outcomes were: high self-efficacy, greater perceived severity, lower personal sense of vulnerability, lower barrier and having life goals. Females: higher self-efficacy, cues to action and having life goals were associated with both outcomes.	Definition of variables not clear. Combined SCT and HBM variables.
8	Meekers and Klein (2002)	1,284 (males 727, females 557). Aged 15-24. Living in urban towns in Cameroon. Data from 2000 Reproductive and health survey.	HBM variables: perceived susceptibility to HIV/AIDS, severity, perceived net benefit of condom use, self efficacy. Social support to use condoms. Demographic variables: Outcome variables: condom use with regular partner, condom use with casual partner.	Perceived self-efficacy associated with both outcomes, but the odd was higher for the females and higher with regular partners (OR = 9 vs. 21; OR = 1.9 vs. 2.03). Perceived susceptibility associated with condom use with regular partners for females but not males. Perceived severity with outcome variables not significant. Females: No association between the benefit and barriers and the outcome variables Males: perceived benefit associated with both outcomes. The odd of using condom with regular partner increase with age for the females but no association was found with the males.	Used perceived net benefit of condom use index (combined benefit and barrier constructs) .

9	Odhiambo (2003)	1998 Kenya Demographic Health Survey data. Sample: 11,288 (males 3407 and females 7881) Aged: 15 – 54. 52% married	HBM variables: perceived susceptibility to HIV/AIDS, severity, perceived benefit and barrier to condom use, self efficacy. Outcome variables: unprotected sex with multiple partners. Compared demographic variables: gender, marital status, place of abode	All the HBM variables were significant but some were in the opposite direction. Higher perceived susceptibility, cues-to- action and perceived benefits were associated with greater likelihood to have unprotected sex with multiple partners compared to those who did not hold the similar beliefs. Higher perceived severity and greater self efficacy were associated with safer sex. The urban dwellers, males and younger and unmarried were more likely to have unprotected sex with multiple partners compared to the females, older adults and rural residents.	
10	Volk and Koopman (2001)	223 hospital patients (110 males and 113 females) in Kenya. Mean age 28.4 (range 13-54).	HBM variables: perceived susceptibility and severity, perceived benefits and barriers to condom use. Demographic variables Outcome variables - condom use.	HBM: Only perceived barriers were significantly but inversely associated with condom use. Total variance explained was 18%. 97% reported high sense of threat. Level of education positively associated with condom use but, inversely associated with stigmatizing beliefs about HIV/AIDS. Stigmatizing belief increased with condom use for male but not females.	Perceived self efficacy not assessed. Perceived barrier α = .53, severity = .24

11	Hounton, Carabin and Henderson (2005)	235 youth (155 males and 80 females) from rural district of Benin. Age range = 15 – 45. 64% married. 66% Illiterates. Majority were farmers.	HBM variables: perceived vulnerability and severity, perceived barriers and benefit. Demographic variables Outcome variables - condom use at last sex.	HBM variables: only perceived barriers was related to use condom (OR = 11.5, 3.8 – 34.7). 99% aware of HIV/AIDS; 74% believed there is a cure for it; 94% considered themselves vulnerable to HIV/AIDS, 97% perceived severity. 88% reported negative events associated with condom use. 91% believed condoms were ineffective against HIV/AIDS. Only 19% participants believe HIV/AIDS exists.	Barrier (Poor Ques. e.g. "Do you encounter any problem using condoms?" Does your religion believe HIV exists? Ans.=Yes/ No/DK
12	Prata, Morris, Mazive, Vahidnia and Stehr (2006)	7,817 (3831 males and 3968 females) in Mozambique. Aged 15–24. Data was from Mozambique's 2001 Adolescent	HBM variables: risk perception, cues-to-action (know someone with AIDS, a history of STI and Ever used VCT services). Demographic variables. Outcome variables: condom use at last intercourse.	Higher risk perceptions associated with higher levels of condom use at last sex. Condom use was twice as common among those who correctly assessed their risk than those who did not. Males were more likely to report greater threat and greater condom use; and 15% more likely to use condoms if they correctly assessed their risk than if they did not. History of STI was related to an increased likelihood of condom use at last sex for all subgroups except	Only two HBM variables tested.

		and Young Adult Reproductive Health survey.		never-married men. Knowledge of someone with AIDS and ever used VCT services were significantly associated with higher likelihood of condom use among the females but not males. Older participants, urban residence and higher education were associated with higher likelihood of using condoms.	
13	Tenkorang, Rajulton and Maticka-Tyndale (2009)	1,417 sexually active youths (591 males, 826 females) in Cape Town, South Africa. Aged 14–22	HBM variable: - risk perception, cue-to-action (knowledge about HIV/AIDS). Outcome variables: risky sexual behaviours, last sexual intercourse, sexual debut.	Higher risk perceptions associated with later sexual debut, greater likelihood to have used condoms at both first and last sexual intercourse, and less likelihood to have had multiple sexual partners. Higher knowledge about HIV/AIDS was significantly associated with safer sex behaviours for the males, but, greater sexual risk-taking among the females. For both males and females socio-economic and familial factors was associated with timing of sexual debut. Living in poor communities are more likely to indulge in risky sexual behaviours, compared to those from relatively wealthy communities.	Only two HBM variables tested. Only one item for cues to action.

14	Macintyre, Rutenberg, Brown and Karim (2004)	2,716 adolescents aged 14–22 adolescents in South Africa.	Variables: risk perception, self-efficacy, and cues-to-action: (living in a household with a chronically ill/AIDS person and Knowledge of a friend living with HIV; discussing HIV/AIDS at home etc). Demographic variables. Outcome variables: timing of first sexual intercourse, condom use, sexual risk taking.	Cues-to-action associated with greater threat appraisals but direction differed for males and females. Males: higher risk sexual behaviours and greater condom self-efficacy were associated with a lower perception of risk. 2) Greater community safety index (about HIV risk) were associated with a greater perception of risk. felt at greater risk Females: Higher risk perception was positively associated with having a family sick in the past 12 months. Females had lower risk perception. Being African, compared to other races, and never discussing HIV/AIDS at home were associated with a lower perception of risk. Older respondents had higher risk perceptions and greater engagement in sexual risk taking.	Combined susceptibility and severity (threat index). Perceived benefit and barriers not tested. Had more than five different measures for cues-to action.

15	Maswanya, Moji, Horiguchi, Nagata, Aoyagi, Honda and Takemoto (1999)	1,041 students (males 419 and females 622), mean age 19.8 (range 16–24) in Dar-es-Salaam, Tanzania.	HBM variables: personal sense of risk of HIV infection, negative attitudes to condoms, positive attitude towards caring for HIV positive person without worries, cues-to-action (knowledge about AIDS). Demographic variables. Outcome variables: HIV-risky sexual behaviours: inconsistent condom use(Risk-1 behaviour), both multiple partners in the previous year and inconsistent condom use (Risk-2 behaviour)	Higher personal sense of threat associated with greater likelihood to engage in Risk-2 behaviour, but not associated with Risk-1 behaviour. Both positive and negative attitudes towards condoms were positively associated with Risk-1 behaviour and Risk-2 behaviours. Greater Risk-1 behaviour positively associated with negative attitude towards condom use and use of condom during sex intercourse, getting information from friends and being a female residing in certain, but reported higher preparedness to test their HIV. Greater report of Risk-2 behaviour significantly associated with greater personal sense of risk, sexual partner' negative attitude to condoms' but positive attitude towards caring for HIV positive person without worries. Negatively associated getting information from parents' and readiness to take HIV test.	Combined perceived susceptibility and severity = threat index.

16	Cort and Modeste (2006)	504 high school students from Matabeleland, Zimbabwe (237 males and 267 females). Mean age = 21.4	HBM variables: belief in the efficacy of condoms (benefit), barriers to the use of condoms. Demographic variables, Knowledge about HIV/AIDS. Outcomes: attitude toward condom, intentions to use condom in future sexual encounters.	Belief in the efficacy of condoms and lack of barriers to the use of condoms were significantly related to both outcome variables (r=.30 p<.001; r =.46, p<.001). Knowledge about HIV/AIDS was not significantly related to any of the two outcome variables. Males and older participants were more likely to have greater intention to use condoms. Total variance explained 24% in intention to use condom	Only two HBM variables tested.
17	Kohler, Behrman and Watkins (2007)	N= 6648 (2705 Kenyans and 3943 Malawians). Data was from previous surveys. A longitudinal survey. Data collected: 1999–2000 & 1997–2001	HBM variables: risk perception and cue to action: network partner (couple and children) communication about AIDS threat and media messages Demographic variables Outcome variables – increase threat perception and the adoption of safe sex behaviour.	The number of network partners was significantly associated with increased risk perception (Kenya: r= .231, p< .01; Malawi: r= .104, p< .05). Having at least one network partner with high threat about AIDS increases the respondents' risk perception by 0.54 in Kenya and 0.19 in Malawi. Additional network partners AIDS risk concerns have substantially smaller effects on respondents' risk perceptions of 0.05 in Kenya and 0.07 in Malawi. Malawians: risk perceptions correlated positively with all network partners' risk perception. The first network partner with moderate AIDS worries reduces respondents' risk perception by 0.25, and the reduction is equal to 0.32 for the first network partner with no or low risk perception.	Did not report of relationship with safer sex.

		respectively.		Kenyans: network partners with low or no AIDS risks perception was not statistically significant.	
Theory of Planned Behaviour					

1	Godin, Bah, Sow, Minani, Morin, Alary (2008)	76 sex workers (SW) and (Benin, n = 22; Guinea, n = 16) their boyfriends (BF) (Benin, n = 22; Senegal, n = 16) in three West African countries: Guinea, Benin and Senegal. Mean age: SW = 27.3 (7.8), BF = 29.6 (7.6)	TPB variables: Attitude to condoms, Subjective norms, Perceived Behaviour Control. Other variables: Moral Norm, Demographic variables. Outcome variables: intention to use condoms, Condom use at last sexual intercourse.	TPB variables predicted intention (r =. 65, p < .001). Intention behaviour relationship was (r =. 54, p < .001). PBC was the strongest predictors of both intention and condom use (r = .86, p<001 and r = .54, p<001), followed by attitude (r = .77, p<001 and r = .50, p<001) and then subjective norms (r = .64, p<001 and r = .31, p<001). The relationship between moral views and intention/ condom use (r = - .78, p<001 and r = .45, p<001).Significant differences between the countries in intention to use condoms but no significant differences were found in actual condom use at last sexual intercourse. Total variance explained = 83% SW: determinants of intention were: PBC (β = .51, p < .01), attitude (β = .34; p < .001), and moral norm (β = .11, p < .05). Model explained 82% of the variance of intention. BF: determinants of intention were: PBC (β = 0.53, p < .001), moral norm (β = .30, p < .001), attitude (β = .20, p < .001) and country (β = 0.11, p < 0.01). Model explained 74% of the variance of intention. Intentions were more strongly related to behaviour in Benin than in Guinea and in Senegal. No demographic variable contributed to the predictions.	

2	Kakoko, Astrøma, Lugoe and Lie (2006)	737 primary school teachers (65% females and 35% males) in the Mwanza region, Tanzania. Mean age 38.9 (Range 21–59).	TPB variables: Attitude towards VCT, Subjective norms, perceived behavioural control. Other variables - perceived risk (HBM), Demographic variables. Outcome variables: Intention to use of VCT services.	All TPB variables were significantly correlated with outcomes. Total variance accounted was 36%. TRA (attitude and subjective norms) accounted for 18% of variance in intention to use VCT. PBC increased explained variance by 12%. Perceived risk increases the explained variance by 3%. Contributing determinants were: perceived behavioural control (β = .37, p<.001), attitude (β = .25, p< .001) and perceived risk (β = .18, p<.001). Subjective norm and demographic variables not significant.	Subjective norm was the weakest predictor of intention to use VCT.
3	Lugoe and Rise (1999)	528 sexually active secondary school students in Arusha, Northern Tanzania. Mean age 17.8 years (SD = 1.9).	TPB variables: Attitude to condoms, Subjective norms, perceived behavioural control. Other variables - Past behaviour in relation to condoms use, Demography. Outcome variables: intention to use condoms at next sexual intercourse.	All TPB variables were significantly correlated with outcomes. PBC was strongest predictor of intentions and determinant (r = .59; β = .48). Correlations of attitude and subjective norm with intended condom use (r = .37 and r =.42 respectively). The contribution of subjective norms to the model was (β = .22, p < .0001) and attitudes third (β = .11, p < .01). Total variance accounted for was 42% in intention to use condoms. TRA accounted for 23% of the. PBC added 19% variance. Past use condoms - intention correlation (r = .31); and increased R^2 by 2%. Correlations between past behaviour - attitudes and subjective norms r = .37 and .42.	Perceived behavioural control was the strongest determinant. Attitude was the weakest predictor of intended condom use

10	Townsend, Loraine and Dawes Andrew (2007)	175 registered foster and adoptive mothers of child welfare NGO (70 adoptive and 96 foster mothers in South Africa. Mean ages = 41.7 and 51.6 respectively).	TPB variables: Attitude to fostering child orphaned by HIV/AIDS, Subjective norms, Perceived Behavioural Control. Outcome variables: intention to foster HIV/AIDS positive child, and HIV/AIDS negative child	All TPB variables significantly correlated with outcomes variables. PBC was the greatest predictor of intentions (r = .52, p<.01; r .53, p<.01), followed by attitude (r = .54, p<.01; r .41, p<.01) and Subjective norm (r = .43, p<.01; r .48, p<.01). Total TPB model accounted for 26.3% of variance in intention to foster HIV positive child and 32% in intention to foster HIV negative child. TRA accounted for 20.3% and 29% of variances respectively. Indirect testing: only PBC was contributed to intention to care for an HIV-negative child (b = .32, p < .05). Neither attitude nor subjective norms was significant. For HIV-positive child, none of the TPB variables was significant. Links between the direct measure of attitude and its corresponding belief-based measures were confirmed only in the case of an HIV-negative child (r = .39)	
4	Giles, Liddell, Bydawell (2005)	152 youth living in a subsistence agricultural settlement in South Africa (48% male and 52%	TPB variables: Attitude, subjective norms, *perceived behavioural control* (PBC) and *self-efficacy*. Other variables: fear of contracting HIV/AIDS,	All TPB variables correlated significantly with outcome variables. Self efficacy had the strongest positive relationship with intention and actual condom use (r = .76, p<.01; r=. 44), followed by subjective norm (r = .63, p<.0; r=.34) and then attitude (r = .57, p<.01; r = .31). PBC was the weakest predictor of intention (r = .53, p<.01). The correlations between intention and actual behaviour was r =.31, p<0.01.	Tested *PBC and Self-efficacy* as different constructs. PBC reflected

		female). Mean age = 20.3.	access to and beliefs about condoms. Normative beliefs: my partner, my family, my close friends and my teachers. Beliefs variables: fear of contracting HIV/AIDS, access to condoms and beliefs about condoms. Demographic variables. Outcome variables: intention to use condoms, actual condom use.	Overall model: self-efficacy contributed (β = .48, p< .01) and subjective norm (β = .35, p<.01). Attitude and PBC were not significant. Attitudinal beliefs accounted for 16% of the variance in intention: fear of contracting HIV/AIDS (β = .27, p<.01), access to condoms (β = .21, p<.01) and beliefs about condoms (β = .20, p<.01) and Normative beliefs 15%: my partner r =.27, p<.01; my family r =.39 p<.01; my close friends r = .22, p<.01 and my teachers r= .19, p<.05. Total model accounted for 67% of the variance in intention to use condom.	judgments about the extent to which decision was influenced by factors outside ones control. α= .20. *Self-efficacy* measured beliefs about ones ability to use a condom.

5	Bryan, Kagee and Broaddus (2006)	245 secondary school student southeast of Cape Town, South Africa. Mean age = 16.2 (age range 14 - 19.	TPB variables: Attitude to condoms, Subjective norms, perceived behavioural control. Demographic variables. Outcome variables: intention to use condoms, condom use 4 months later.	All TPB variables were significantly correlated with outcomes. The model accounted for 22% of the variability in condom use intentions. Subjective norm had the strongest correlation with intention (R = .40, p <.001) followed by perceived self efficacy (R = .34, p < .001) and then attitudes (R = .22, p<.001). Only intentions was a significant predictor of behaviour 4 months later (β =.28, p < .05, pr2 =.06) and accounted for 14% of the variance in behaviour.	α for Attitudes variable = .59
12	Boer and Mashamba (2005)	201 secondary school students in Venda, South Africa (females = 97, males = 89, gender not specified = 15). Mean age 17.1.	TPB variables: Attitude, Subjective norms, perceived behavioural control (PBC). PMT: condom self-efficacy HIV/AIDS knowledge, perceived vulnerability and seriousness, fear of HIV, Efficacy of condoms. Demographic variables. Outcome variables: intention to use condoms	TPB explained 17% of the variance in intention to use condom: only subjective norm and PBC significantly correlated with intentions (r = .43, p <.001; r = .22, p <.01 respectivly). Attitude towards condom use was not a significant predictor of condom use intention. PMT adds 6% of variance to the model. In combination, TPB/PMT and demographic variables explained 22% of the variance in intention to use condom. Age alone added 3% of the variance in condom use intention. No significant relationships were found between knowledge, gender and intention to use condoms.	Combined TPB and PMT variables.

13	Boer and Mashamba (2007)	195 university students from Venda, South Africa (male = 94 and female 101; mean age = 23.1)	TPB variables: attitude towards condom, subjective norm, PBC. PMT variables: perceived vulnerability, severity, fear of HIV/AIDS, response-efficacy, self-efficacy. Demographic variables. Outcome variables: intended condom use and consistent condom use during the last previous 12 months. Gender difference	TPB explained 38% and 22% of the variance in intended condom use for males and females. The model explained 6% of variance in consistent condom use for females, but the path to actual condom use was not significant for the males. PBC did not contribute to the model, but, was significantly higher among females than among males. Males predictors were: subjective norm ($r = .42$, $p<.001$), attitude ($r = .25$, $p<.05$) and response efficacy ($r = .41$, $p<.001$). For females, predictors were: attitude ($r = .28$, $p<.001$), response efficacy ($r = .22$, $p<.05$) and self efficacy ($r = .29$, $p<.01$). PMT explained 22% of the variance in intention for both males and females.	Self-efficacy strongest predictor of intention for female. For males, attitude and subjective norm were more salient. PBC had limited prediction.
11	Giocos, Kagee and Swartz (2008)	224 secondary schools students in South Africa (mean age = 17.3, SD = 1.5).	Attitude towards participation in HIV vaccine trial, Subjective Norms, PBC. Other variables: perceived risk, attitudes to HIV/AIDS. Outcome variables: willingness to participate in vaccine trial	TRA variables subjective norms and attitude significantly predicted willingness to participate in a future HIV vaccine trial (WTP). Subjective norms (OR = 1.19, 95% C.I. = 1.06–1.34; $\beta = .18$, $p< .001$). Attitude toward HIV vaccine trial was also significant ($\beta = .28$, $p< .05$). PBC did not contribute to the model. The combination of the TPB variables with HBM variables for 78% variances in intention.	Did not report total variance of TPB. The combined TPB and HBM variables.

14	Heeren, Jemmott, Mandeya and Tyler (2009)	320 undergraduate students in Eastern Cape Province, South Africa (49% South Africans, 33% Zimbabwean and 18% Lesothos). Mean age 23.4 (age range 18 - 43).	TPB variables: normative belief regarding sexual partner's approval of condom use, normative belief regarding peers' approval of condom use, condom-use hedonistic belief, condom-use technical skill, condom-use impulse-control beliefs to use condoms. Outcome variables: intentions to use condoms, actual condom use condom use 3 months later.	The model explained 57% of the intention to use condoms. The variability between intentions to condom use at most recent sex was 6.8%. The relationship between the predictors and intention to use condoms were: hedonistic beliefs r=.51, p = <.0001, normative beliefs r=.55, p = <.0001, condom use skill r=.47, p = <.0001, impulse control r=.51, p = <.0001 and age group (r=.15, p = <.001). Controlling for country, relationship status, gender and age group they found that consistent condom use at 3-month follow-up was statistically significant related to intention to use. The relationship between sexual partner approval and the intention to use condoms was significantly stronger among the other Southern African students than among the South African students. The relationship between peer approvals to intention was significantly stronger among the other Southern African students than among the South Africans.	
8	Bosompra Kwadwo (1998)	201 university students (males = 62%, female = 38%) in Ghana. Mean	TPB variables: Attitude to condoms, Subjective norms, PBC. HBM variables, risk perception, benefit and barrier.	All TPB variables significantly correlated with outcomes in the bivariate analyses. Total TPB explained 47.2% of intention (TRA contributed 45.9%). The strongest predictor was subjective norm (0.54, p<.001) followed by PBC (p=.21, p<.01) and then attitude (p=.21, p<.01). Indirect testing (with the belief-based measures), the PBC was not significant	Past condom use was not related to condom use intention.

		= 24.4 (age range = 19 - 29).	Demographic variables. Outcome variables: intention to use condoms.	predictor of intention. The difference between those who intended to use condoms consistently and those who did not was their motivation to comply with the wishes of their significant referents. For female, perceived severity of HIV/AIDS also significantly differentiated between intenders and non-intenders. A composite model of TPB and HBM predicted 55.7% and 74.4% of male and female students' intentions respectively. HBM explained 20% of the variance in students' condom use intentions.	
9	Bosompra Kwadwo (2001)	201 university students (males = 62%, female = 38%) in Ghana. Mean = 24.4 (age range = 19 - 29).	TRA variables: Attitude to condoms, Subjective norms. Demographic variables. Outcome variables: intention to use condoms.	All TRA variables were significantly correlated with outcomes in the bivariate analyses. Intention correlated significantly with subjective norms (0.54, p<.001) and advantages and disadvantages of condoms use (r=.29, p<.001; r-.34, p<.001). Total the model explained 33.33% of the variance in intentions to use condoms. The contribution of subjective norms was (p=.45, p<.001) and attitude (p=.21, p<.01). Perceived advantages of condom use (one dimension of the attitude scale) did not a significantly predict condom use (p=.09, ns). There were no statistically significant gender differences in terms of sexual experience and past condom use and intention to use condoms.	Subjective norm was the strongest determinants of intention to use condoms. Past condom use was not related to condom use.

6	Fekadu and Kraft (2001)	500 sexually active female adolescents in Addis Ababa; Ethiopia. Aged 15 - 19.	TPB variables: Attitude, Subjective norms, perceived behavioural control. Other variables - Past behaviour in relation to condoms use Demography. Outcome variables: intention to use contraception (contraceptive pill, condom and behavioural method).	Model explained 32% of the variance in intention to use contraception. Subjective norm as the strongest predictor of intention ($r = .53$, $p<.01$), followed by attitude ($r = .35$, $p<.01$) and then PBC ($r = .34$, $p< .01$). Relationship between past behaviour and intention was $r = .40$, $p<.01$. Self-identity (ß=.10, $p < .049$), and past behaviour (ß=.25, $p<.001$) emerged as significant predictors of intention in the augment ed model.	Self-identity included in the model.

7	Fekadu and Kraft (2002)	354 sexually active female adolescents living in Addis Ababa, Ethiopia. Age range 15 - 19.	TPB variables: Attitude, Subjective norms, perceived behavioural control. Demographic variables. Outcome variables: intention to use contraceptives.	All TPB variables were significantly correlated with outcome. The model explained 27% of the total variance. Subjective norm had the strongest correlation (R = .46, p =.001) and explained 11 percent of the variance followed by attitudes (R = .33, p =.001) and them perceived behavioural control (R = .46, p = .001). The girls were influenced more by norms than personal considerations (subjective norm β = .33, p <.001, attitudes: β = .20, p <.001, and; PBC: β = .17, p<.001). Group norm explained 1.2% of the total variance in intention (β = .11, p <.035). Descriptive/peer norms independently explained 4.4% of the variance in intention (β = .20, p <.001).	
4	Taffa, Klepp, Sundby and Bjune (2002)	561 youth in Addis Ababa, Ethiopia (females = 226, males = 335). Mean age = 18 (15 - 24 years). Out-of-school = 307 and in school = 254. Out-of-school	TPB variables: attitudes, subjective norms, self-efficacy to use condom. Other variables: perceived barriers: availability and affordability of Condoms, Skills to negotiate for sex, ability to explain the benefit of condom use, knew where to find	TPB had limited predictions. Self-efficacy, barriers and skills predicted intentions to use condom. Total variance explained 23%. Both subjective norm and attitude to condoms were non-significant. Self-efficacy was the strongest predictor of intention (r = .35, p<.01), followed by skills (r = .28, p<.01). Gender-segregated correlation showed that self-efficacy, skills and barriers explained 27% of the variance among males whereas self-efficacy and skills explained 11% among the females. Self-efficacy also strongly influenced condom use during the most recent sexual intercourse in both sexes (r = .34, and r =	subjective norm α = .60

		youth were older than the ones in the school by a mean of one year.	information/services and condom use. Demographic variables. Outcome variables: Intention to use condom, condom use, intention to abstain from sex,	.44, P<.01 respectively). Males were safer in their sexual behaviours compared to the females, but more females were likely to opt for sexual abstention and condom use intention compared to males. Barrier had inverse association with intention (r = -.15, p<.05). Attitude was inversely associated with skill to use condom (r = - .24, p <.001).	

Chapter 2

Literature Review

2.0 Cognitive Approaches to Understanding Safe Sex

Psychologists have used various approaches to understand the problem of why people generally do not do more to protect themselves against HIV/AIDS. The dominant approach has been to use the cognitive models of health behaviour, such as the Health Beliefs Model (HBM) (Rosenstock et al., 1994) and the Theory of Planned Behaviour (TPB) (Ajzen, 1991). Others are the AIDS Risk Reduction Model (ARRM) (Catania, Kegeles & Coates, 1990), the Transtheoretical Model (TTM) (Prochaska & DiClemente, 1984; Prochaska & Velicer, 1997), and the Protection Motivation Theory (PMT) (Prentice-Dunn & Rogers, 1986; Rogers, 1975, 1985). The ARRM was specifically developed for HIV/AIDS. It is a three staged model that combines variables from other models such as the HBM and Bandura's (1977) self efficacy model. Rogers's (1985) PMT combines constructs from the HBM, Theory of Reasoned Action, and Bandura's (1977) self-efficacy variable. The TTM (Rogers, 1975, 1985) is also an integrative model that incorporates variables from Janis and Mann's (1977) model of decision making, and Bandura's self efficacy (Bandura, 1977). Since the models mentioned incorporate variables from the two dominant theories (i.e. the HBM and the TPB), this chapter is mainly about the overviews of the two dominant models.

2.1 The Health Belief Model (HBM)

The Health Belief Model (Rosenstock et al., 1994) was originally developed in the 1950s by Godfrey Hochbaum (1958) as a psychological framework that attempted to discover the variables that accounted for the failure of the public to participate in the health screening programme for tuberculosis. Rosenstock (1966, 1974, 1990) and Becker and Rosenstock (1984) further developed the model for health promotion. The model is based on the premise that people's attitudes and beliefs could be used to explain and predict their health behaviours. It postulates that individuals will take steps to prevent a disease only if they feel at risk and if they believe something could be done to prevent or moderate its severity. The original model was thus conceived of four key determinants: perceived susceptibility to a disease; perceived severity of the disease; perceived benefit of engaging in behaviours likely to reduce the threat of the health condition and perceived barriers to performing the action. Rosenstock et al. (1988, 1994) further revised and expanded the model by incorporating two additional constructs: cues-to-action and self-efficacy. The six key constructs of the model are briefly described below:

- *Perceived Susceptibility*: This is one's subjective perception of risk of contracting a disease.

- *Perceived Severity:* These are beliefs about the seriousness of contracting the disease.

- *Perceived Benefit*: These are beliefs in the effectiveness of the preventive strategies designed to reduce the threat of the illness.

- *Perceived Barriers* are the potential negative consequences of taking particular action. The barrier may be physical, psychological, and financial. *Perceived benefits* and *perceived barriers* provide a preferred path of action.

- *Cues to Action* refer to events, personal, interpersonal and or environmental experiences that motivate a person to take action. The cues can be internal (such as symptom of a disease) or external cues (such as mass media communication – print and electronic, advice or reminders from health care provider(s) and interpersonal interaction with family, friends etc.). Cues to action influence threat appraisals and may generate the initial preventive action taking (Becker & Rosenstock, 1984).

- *Self-efficacy* refers to the belief in one's ability to successfully perform the behaviour required to produce the desired outcomes. According to Rosenstock et al. (1988) the self-efficacy construct was directly transferred from the work of Bandura (1977).

HBM theorists have suggested that all the six variables independently contribute to one's decision about their health and the resultant action taken by the person (Becker & Rosenstock, 1984). Additionally, socio-psychological and structural variables, and demography can influence both perceived susceptibility and perceived severity, and the perceived benefits and perceived barriers to action. Furthermore, health motivation which is the existence of sufficient motivation (or health concern) to address health issues is also a salient component of the model (Rosenstock et al., 1988).

HBM is one of the oldest and most widely used social cognitive model to predict various health behaviours including HIV/AIDS and safer sexual behaviours (e.g. Armitage & Conner, 2000; Brewer et al., 2007; Conner & Norman, 1996, 2005; Eshrati et al., 2008; Gerrard, Gibbons & Bushman, 1996; Harrison et al., 1992; Leventhal, Kelly, & Leventhal, 1999; Munro, Simon & Volmink, 2007; Noar & Zimmerman, 2005; Rutter & Quine, 2002; Sheeran & Abraham, 1996; Sheeran et al., 1999; White, 2004; Zak-Place & Stern, 2004). Most of these studies were conducted in Western countries. In terms of HIV/AIDS, the HBM suggests that individuals are more likely to adopt safer sexual behaviours (e.g. abstinence, faithfulness or condom use) only if they recognize themselves as susceptible to HIV infection; believe the consequences of HIV infection are serious; believe something could be done to prevent it or moderate its severity; if they believe they can successfully carry out the behaviour required to produce the desired outcomes and that the barriers of safer sex are comparatively

low. Many studies found that even though the model's constructs are individually significant in a majority of studies, the utility of the whole model was found to have low predictive power (Conner & Norman, 1996, 2005; Gerrard et al., 1996; Harrison et al., 1992: Iriyama, Nakahara, Jimba, Ichikawa & Wakai, 2006; King, 1999; Lin, Simoni & Zemon, 2005; Munro et al., 2007; Sheeran et al., 1999; Zak-Place & Stern, 2004). For example, Sheeran et al. (1999) in a study of psychosexual correlates of condom use suggests that susceptibility, severity and cues to action (the 'labelling' stage of the ARMM) have weighted mean correlations that are not very high (the amount of variance explained was just 6.3%). On the other hand perceived benefits and barriers, and condom self-efficacy have higher mean correlations and explained 23% of variance. Thus, the benefit and barrier variables have higher correlations with condom use.

For this study, 15 articles that applied the HBM in an African context to understand the practice of safer sex in the face of HIV/AIDS were reviewed. To obtain the papers, searches of the following electronic databases were conducted: Medline (OVID), PsychINFO, EMBASE, CINAHL, Educational Resources Information Centre (ERIC), AIDSLINE, Pre-CINAHL, Web of Science (ISI), Sociological Abstract (CSA), PubMed and Dissertation Abstracts International. Key words used for the search included (Health Belief Model), (HIV/AIDS) (STIs), (sexual behaviour), (condom use) and (Africa or country such as Ghana, South Africa, Tanzania etc). Search terms that combined the key words resulted in only five

abstracts and full text articles. In order to obtain more studies from Africa, the relevant papers cited in the references of the obtained articles were identified and hand searched. This resulted in an additional ten articles. No quality filters were used during the selection of the articles because of the paucity of the articles published in African settings. A study was eligible if it used a sample from any country in Africa, was published after 1994 and reported on the association between at least one of the model's constructs and sexual behaviours associated with HIV/AIDS. Details of the 15 studies are given in Table 7.

The studies are difficult to review because not all the studies measured all of the components of the HBM, and different studies investigated different outcomes (e.g. condom use, number of sexual partners). Considering first the constructs relating to the 'labelling' stage of the ARMM (i.e. susceptibility, severity and cues to action), severity was not measured in many of the studies. Vermeer et al. (2008) did measure it, but found it unrelated to outcome. Cues to action were occasionally measured (e.g. knowing someone with AIDS), but no consistent pattern emerged from the studies. Perceived susceptibility was most often measured. The results are inconsistent. Some studies (e.g. Adih & Alexander; Prata et al., 2006) found that, as predicted by the model, it was related to higher protective behaviour. However, other studies found no association (e.g. Hounton et al., 2005; Volk & Koopman, 2001) or even that, contradicting the model,

higher perceived susceptibility was related to less safe sexual behaviour (Kohler et al., 2007).

More often measured were the 'commitment to change' variables (particularly perceived barriers and self-efficacy, less so perceived benefits). A more consistent pattern emerged, with numerous studies finding that these were significantly associated with protective behaviour in the direction predicted by the model, and no reported examples of them not being significantly associated or associated in the opposite direction.

Effects sizes, and comparisons of effect sizes for the different variables, are difficult to summarise because of differences in the statistics used (e.g. some reported odds-ratios, others correlations) and in the outcomes, and because of the fact that not all the studies measured all the constructs. However, in the studies that did allow comparison, the perceived barriers and self-efficacy variables were generally more strongly associated with outcome than perceived susceptibility or cues to action (e.g. de Paoli et al., 2004; Vermeer et al., 2008). In studies that measured all the constructs of the HBM, between 20% and 67% of the variance in outcome was explained by the model.

Measurement issues also make it difficult to make comparisons across studies. For example, the measure used by Hounton et al. (2005) appeared

contradictory. Over 90% reported very high perceived vulnerability and severity but at the same time only 19% believed HIV exists. In addition, some (e.g. Mulatu et al., 2000) violated the expectancy – value arrangement of the model by using a threat perception index (rather than separate constructs of perceived susceptibly and severity). Furthermore, there was no consistency in how the constructs were measured across the different studies, with no two studies using the same measures. Most of the studies also did not assess the utility of the whole model.

This review has suggested a stronger and more consistent association between outcome and the commitment variables (perceived barriers and self-efficacy) than that between outcome and the labelling variables (i.e. susceptibility, severity and cues to action). This is similar to what has been reported in more general reviews and meta-analyses of the HBM's ability to predict protective sexual behaviour (Sheeran et al., 1999).

A major weakness of HBM is that it does not address other important factors of health behaviour. These include the positive effects of negative behaviours, the influence of socio-cultural factors and significant referent's approval of an individual's action and emotional factors (Gebhardt & Maes, 2001; Stroebe, 2000; Wood & Quinn, 2002, 2005). As a result of these limiting factors, some researchers have produced new conceptual frameworks using some of the model's constructs (e.g. ARRM, Catania et

al., 1990). The limited support for HBM hypothesis probably has contributed to the use of other models to the understanding of HIV/AIDS.

Some other conceptual problems have been described by a number of theorists and researchers (e.g. Armitage & Conner, 2000; Conner & Norman, 1996, 2005; Stroebe, 2000; Stroebe & de Wit, 1996). For example, the model's constructs are generally seen as independent predictors of health behaviour, and it is assumed that they have an additive effect and are not moderated by each other.

2.2 The Theory of Planned Behaviour (TPB)

The TPB has been the other main model employed especially in the context of condom use. The TPB (Ajzen, 1985, 1991) extends the Theory of Reasoned Action (TRA, Fishbein & Ajzen, 1975, 1980). The TRA assumes that intention is the only proximal determinant of behaviour and that the greater the intention to perform a behaviour, the more likely is its performance. Intention is defined as the motivation to perform a particular behaviour (in other words, the amount of effort one is willing to exert to attain a goal). Within this framework, *intention* is a function of two basic determinants (the *attitude* toward the behaviour and the *subjective norms* associated with that behaviour). TRA therefore suggests that behaviour is under volitional control; if this is so then, people can be expected to do what they intend to do. Thus, the theory only applies to behaviours that are

consciously thought out before hand. Irrational decisions, habitual and automatic actions or any behavior that is not consciously considered cannot be explained by this theory (Hewstone & Young, 1988; Sheppard, Hartwick, & Warshaw, 1988). The TPB extended the Theory of Reasoned Action by the inclusion of the construct *perceived behavioural control (PBC)* as a determinant of both intentions and behaviour. Brief descriptions of the variables are:

- *Attitude towards a behaviour* is a person's salient belief about whether the outcome of the action will be positive or negative. Underlying a person's attitude towards a behaviour is behavioural belief which is made up of a combination of a person's beliefs regarding the outcomes of the behaviour and the person's evaluation of potential outcomes. Fishbein and Ajzen (1975) maintained that *Attitudes* are made up of beliefs that a person accumulates over his lifetime (from direct experience, outside information and self generated ones).

- Subjective Norms are a person's perceptions of other people's opinions about the behaviour and the social pressure to comply with the behaviour. They are a combination of a person's beliefs regarding the views of significant others (family, friends and community) about a behaviour (normative belief) and the degree to which the beliefs influences whether or not the behaviour is carried out (motivation to comply).

- *PBC* refers to an individual's perceptions of their ability to perform a given behaviour. It is a predictor of intentions analogous with attitudes and subjective norms, and has direct and indirect relationship with behaviour (Ajzen, 1991).

  Ajzen (1988, 1991), Fishbein and Ajzen (1980) and Fishbein (2002) asserted that, the relative importance of attitude, subjective norm, and *PBC* in the prediction of intention is expected to vary across behaviours and situations and from group to group. Also, other external variables (e.g. demography, personality traits and resources) termed non-motivational factors could influence the belief a person holds or the relative importance the person attaches to attitudinal and normative considerations and consequently affect intention, but that they have no direct influence on behaviour (Ajzen, 1988, 1991).

  The TPB has been applied to the understanding of various behaviours including HIV/AIDS (e.g. Abraham, Sheeran & Johnston, 1998; Albarracin, Johnson, Fishbein & Muellerleile, 2001; Albarracin, Kumkale & Johnson 2004; Armitage & Conner, 2001; Bennett & Bozionelos, 2000; Hagger, Chatzisarantis & Biddle, 2002; Conner & Norman, 1996, 2005; Sheeran & Orbell, 1998; Sheeran & Taylor, 1999). A meta-analysis that assessed the application of TPB/TRA to various behaviours, including HIV/AIDS protective behaviours, indicated that the model accounted for 27% and 39% of the variance in behaviour and intention respectively (Armitage & Conner,

2001). In the application of TPB/TRA exclusively to condom use, a recent meta-analysis of 58 studies involving 30,270 participants by Albarracin et al. (2004) indicated that condom use was related to intentions (r = .44) and intention was correlated with attitudes (r = .60), and subjective norms (r = .42). The corresponding correlations between PBC and intention and condom use were r = .48 and r = .24 respectively. Contrary to the theory's predictions, the path coefficient from PBC to condom use was not significant; even though significant relationships were found in some of the studies reviewed (Albarracin et al., 2001). Besides, the directions of some of the significant correlations were in the opposite direction. However, the strength of these associations was found to be influenced by past behaviours (Albarracin et al., 2001).

Indirect testing of the constructs based on weighted behavioural beliefs indicated that intention was highly correlated with the indirect measure of attitude (r =.57) and subjective norm (r = .47). Albarracin et al. further found that studies which assessed behaviour retrospectively had higher intention – behaviour correlations (r = .57, $p<.001$) compared to those that assessed it prospectively (r = .45, $p<.001$). A similar pattern was found for the relationship between PBC and behaviour (r = .34 vs. r = .25, $p<.001$), suggesting that people base their intention to use condom more on past sexual behaviours. Again, most of these studies were conducted with participants from the Western countries.

Again, 15 articles involving samples from Africa countries published from 2000 to 2009 have been reviewed for this study. These studies were all that were retrieved from the electronic databases mentioned above. The search strategy and inclusion criteria were the same as mentioned above in relation to the HBM. Again, no quality filters were used during the selection of the articles because of the paucity of the articles published in African context. The details of the studies are given in Table 7 above.

There was considerable variation in the findings. For example, whereas some studies found PBC to be strongest predictor (Kakoko et al., 2006; Lugoe & Rise, 1999), PBC was not significant in other cases (e.g. Giles et al., 2005; Giocos et al., 2008). Subjective norms were also found to be important in some studies but were not significant in a few of the studies (e.g. Taffa et al., 2002). Attitude was important in only one study (Townsend & Dawes, 2007). In contrast to the findings of Albarracın et al. (2001) and Albarracın et al. (2004) (mainly conducted in a western context), the addition of past behaviour to the model only improved the model's predictions marginally (e.g., Fekadu & Kraft, 2001; Lugoe & Rise, 1999). Another inconsistency was that Albarracin et al. (2004) reported that females were more likely to base their decisions on social norms whereas males made decisions more on their perceptions of behavioural control, but the studies in an African context reviewed here found the reverse or no difference between the genders (e.g. Boer & Mashamba, 2007; Bosompra, 1998, 2001; Heeren et al., 2009; Taffa et al., 2002).

This variability in the findings is also reflected in significant variability in the amount of variance in outcome accounted for by the model. The model accounted for between 17% and 67% of the variance in intention in the studies that were reviewed. Moreover, although these moderate to high variances were explained in intentions, the variance explained in actual behaviours was quite low (between 6 and 14%).

The main criticism of the studies reviewed under TPB was the fact that some of the researchers combined the TPB variables with other cognitive behaviour models, leading to probable conflation and inflated total variability explained (e.g., Boer & Mashamba, 2005, 2007; Giles et al., 2005; Mulatu et al., 2000). By implication this is also a limitation of the TPB. The model does not address risk perceptions and belief in the efficacy of condom use. It became apparent in the above reviews that the addition of other variables in the model improved the predictive power of the TPB. For example, Bosompra's (1998) composite model comprising significant constructs of the TPB and the HBM successfully predicted 55.7% and 74.4% of male and female students' intentions respectively as against only 47.2% of the variance in intention predicted by the TPB constructs only.

2.3 Comparison of the TPB and the HBM

Although both models came from different theoretical and conceptual origins, some of their constructs can be described as similar, even though

different terminology are used to describe them (Amitage & Conner, 2000; Conner & Norman, 2005; Gebbhardt & Maes, 2001; Noar & Zimmerman, 2005; Weinstein, 1993; Weinstein & Rothman, 2005). For example, the perceived barriers and benefits construct of HBM and attitude (positive and negative expectancies) of TPB could be described as the same.

The TPB focuses on behavioural beliefs and HBM focuses on the benefit and cost, but TPB has the advantage of having clearly defined variables and general agreement about how the constructs should be operationalized (Biddle & Nigg, 2000; Conner & Norman, 1996, 2005; Murray-Johnson et al., 2001). It is also claimed that the TPB has more predictive success compared to the other specific theories (Stroebe, 2000). Several reviews of the studies that have compared TPB with HBM in explaining some health behaviours indicated greater predictive validity of the TPB model compared to the HBM (Bish, Sutton, & Golombok, 2000; Buscemi & Saint, 2003; Lajunen & Rasanen, 2004; Simşekoğlu & Lajunen, 2008). By contrast, the HBM is easily conceptualized and so has a common sense appeal and can be a good starting point for developing framework for understanding behaviour of people (Eiser, 1997; Noar & Zimmerman, 2005). Others (e.g. Biddle & Nigg, 2000; Murray-Johnson et al., 2001; Weinstein & Rothman, 2005) have argued that it is the most appropriate approach where illness avoidance and perceived threat are the most salient issues.

2.4 Criticisms of the Cognitive Approaches

A large empirical literature has been produced that demonstrates support for the social-cognitive models such as the TPB and the HBM and the area continues to grow rapidly especially in the West (Albarracın et al., 2001; Albarracin et al., 2004; Amitage & Conner, 2001; Conner & Norman, 1996, 2005). However, their limited predictive power and other criticisms have led others to question the extent to which they have truly added substantive value to our knowledge of health behaviours (e.g. Bandura, 1998; Murray-Johnson et al., 2001; Noar & Zimmerman, 2005; Ogden, 2003; Weinstein & Rothman, 2005). Despite their widespread popularity, their application, specifically in AIDS research, has come under increasing criticism. This is mainly because the approach is based on the idea that health-related behaviour is simply the product of a rational process, in which the person weighs up the advantages and disadvantages of the different courses of action. It gives insufficient weight to the contribution of emotional, social and cultural factors. Even when these factors are considered within the models (e.g. 'subjective norms' within the Theory of Planned Behaviour gives some consideration to social influences), their impact is viewed as operating through, rather than separately from, the process of rational consideration assumed to underlie behaviour. In other words, the models do not leave room for the possibility that people's behaviour is not always the product of rational consideration. Evidence to support these criticisms comes from the fact that there are few studies in which the amount of variance in sexual behaviour explained by the models is reasonably high

(Albarracin et al., 2001; Albarracin et al., 2004; Bryan, Fisher & Fisher, 2002; Sheeran, Abraham & Orbell, 1999; Schwarzer, 2001; Webb & Sheeran, 2006). Several authors (Aggleton, 1996; Kelly, Parker & Lewis, 2001; Parker, 2004) point out that, in many cases, motivations for sex are complicated, unclear and may not be thought through in advance (e.g. Manstead & Parker, 1995; Sutton, 1998, 2000; Sutton, McVey & Glanz, 1999). Thus, behaviour is not simply the product of some rational decision to behave in a certain way. Besides often the studies based on CBM try to explain the intention to engage in safe sex, rather than whether people have actually engaged in safe sex. Evidence suggests people's intentions do not appear to be that great an influence on their actual behaviour in a sexual context. Webb and Sheeran (2006) found that intentions have less impact on behaviour when there is potential for social reaction, when there is lack of control over the behaviour and when circumstances of the performance are conducive to habit formation. These are circumstances that often apply in relation to sexual behaviour. They also do not take into consideration the real life emotional responses in engaging in sexual behaviour (Gebhardt et al., 2006); and the influence of socioeconomic and cultural factors (Airhihenbuwa, Makinwa, Frith & Obregon, 1999; Melkote, Muppidi & Goswami, 2000).

In the context of these criticisms, alternative approaches to the study of safe sex behaviour have become increasingly popular; particularly those that attempt to address social and cultural factors. One of these uses Social

Representation Theory (SRT, Moscovici, 1984). This is reviewed in the following chapter.

Chapter 3

3.0 Social Representation Theory (SRT)

3.1 The Basics of Social Representation Theory

SRT (Moscovici, 1984) was developed by Serge Moscovici in 1961 based on Emile Durkheim's (1898) collective representations and introduced into contemporary social psychology as an alternative to the individualistic approach which Howarth (2006a) purported dominates the field. SRT posits that knowledge of the world is a collective construction which expresses the understanding of a community (Farr 1996; Moscovici, 1976, 1980, 1981). It describes how people's beliefs are socially constructed and reflect the understanding of a community as well as how individuals and social groups make sense of, and locate themselves in, their social worlds through the development of a shared body of common sense knowledge which provides a sense of familiarity and understanding (Farr, 1996; Farr & Moscovici, 1984; Moscovici, 1981). The theory therefore looks at people's pattern of thinking concerning certain current events, acquired through messages they are exposed to through daily interaction. Moscovici (1984) characterized social representations (SRs) as constellations of beliefs, social practices and shared knowledge that exist as much in individuals' minds as in the fabric of society and encompass daily life and interaction. They are embedded in the history and culture of the society and so determine the psychological understanding of the

social world and provide a common-sense framework for interpreting experiences which manifest themselves in public discourses. Furthermore, Moscovici perceived SRs as the equivalent of myths and belief systems of traditional societies and of the contemporary version of ‘common sense’; and as having two main functions:

> “first, to establish an order which will enable the individual to orientate themselves in their material and social world and to master it; secondly, to enable communication to take place amongst members of a community by providing them with a code for social exchange and a code for naming and classifying unambiguously the various aspects of their world and their individual and group history” (Moscovici, 1973, p. xiii).

Representations are therefore seen as social creations forming part of social reality and not “individually produced replicas of perceptual data” (Billig, 1993, p. 43). Moscovici (1980 1981, 1984) perceives people’s pattern of thinking concerning current events as acting as a microcosm of attitudes of the society. SRT thus attempts to provide a framework for understanding the dynamic process through which historically and culturally specific belief systems, forms of knowledge and practice develop and circulate.

Moscovici (1961, 1976) was initially interested in how scientific knowledge becomes diffused into everyday discourse and so highlighted two distinctive

universes: the ***reified,*** which he conceives as essentially the world of science where knowledge is generated through the principles of logic, experimentation and rationality; and the ***consensual,*** which is the world of common sense and lay knowledge. Moscovici (1984, p. 10) claims that these two universes are social entities with a life of their own. They communicate using a system of common understanding of concepts and ideas which have particular meaning for both groups. Moscovici and Perez (1997) maintained that from the reified universe, new and complex abstraction is represented in forms that are accessible to the ordinary people. This new knowledge becomes diffused into the consensual universe and become widely shared and popularized through everyday discourse among the people and emerge as a SR of the new phenomenon. The emerged SR becomes the commonsense or the lay explanation that is accepted, unquestioned and tends to oust the scientific explanation to become orthodoxy (Hogg & Vaughan, 2002). Thus, it is within the consensual universe that SRs are created, negotiated and transformed, based on the principles of social knowledge generation. Moscovici (1984) asserted that the new knowledge created by the consensual universe is based on complex principles of knowledge production and so cannot be a simplified version of scientific knowledge but rather it differs from, but is not inferior to, scientific epistemologies.

3.2 Processes of Social Representations

Two processes are involved in the emergence of SRs: anchoring and objectification (Moscovici, 1981).

- *Anchoring* is "the process of classification and naming of unfamiliar objects or social stimuli by comparing them with an existing stock of familiar and culturally accessible categories" (Augoustinos & Walker, 1995, p. 138). Moscovici asserted that naming the unfamiliar makes it less threatening as well as gives it certain characteristics that are already known and present readily identifiable reference points. Anchoring therefore provides a group with a means of stabilizing a representation of something unfamiliar in such a way that protect or sustain their existing patterns of thought and belief, and the group's identity (Moscovici, 1984; Hewstone & Augoustinos, 1998).

- *Objectification* gives a sense of reality to the unfamiliar by turning the abstractions into something tangible and projected outward into the world as constituting the reality we experience. In other words, objectification makes the unfamiliar familiar "by reproducing it among the things we can see and touch and control" (Moscovici, 1984, p. 29). *Objectification* includes three sub-processes: *Figuration,* which transforms concepts into metaphorical images; *Personification* - the

association of a concept with a person; and *Anthologizing*, which makes the concept into something real and imbued with physical properties.

SR therefore functions to gives sense to the realities by integrating what is new into familiar frameworks and categories in each given society (Moscovici, 1981; Howarth, 2006b). Social representation theorists (Augoustinos, 1998; Billig, 1988; Farr & Moscovici, 1984; Hewstone & Augoustinos, 1998; Howarth, 2006b; Howarth, Foster & Dorrer, 2004; Joffe, 1995, 1996a, 1997, 1999; Moscovici & Perez, 1997; Stockdale, 1995) have claimed that anchoring by social groups of the new phenomenon in a particular direction is driven by the motivation to protect their in-group status and self identity through their representations. Furthermore, the people project their fear unto the "Other" who is not affiliated with their groups. The "other", who are usually outside of, and implicitly subordinate to, the dominant group, (Joffe, 1999, p. 18) are then represented not only as symbolical repository of the threat which society wants to get rid of, and also worthy of denigration (Joffe, 1999).

3.3 Criticisms of SRT

The SRT is generally recognised for its importance within social psychology (Howarth, 2006a; Jahoda, 1988; Potter & Litton, 1985; Voelklein & Howarth, 2005). However, it has been subjected to several criticisms, both in terms of its conceptualization and in its practical applications.

- First, it has been criticised for its theoretical ambiguities. For example, Potter and Litton (1985) and Kawalec (2001) criticised it for being vague, fragmented and sometimes contradictory, in defining the notion of SRs.

- Others have claimed it fails to bring a new dimension to research because it overlaps with other areas such as common sense, ideology and culture (Jahoda, 1988; Kawalec, 2001). Similarly, others have pointed out the strong association between SRT and attitude even though the two come from distinct epistemological traditions (e.g. Howarth, 2006a; Liu, 2006; Liu & Sibley, 2004; Moliner & Tafani, 1997; Sibley, Liu & Kirkwood, 2006).

- Another major criticism is that the theory characterises a social representation as an overly cognitive phenomenon that can chiefly be explained by psychological processes with little reference to social influence (Jahoda, 1988; Parker, 1987; Semin, 1985). SR theorists (e.g. Jodelet, 1991; Voelklein, 2004; Wagner, Elejabarrieta & Lahnsteiner, 1995) have countered that social representation research has provided evidence for anchoring and objectification as social, cultural and ideological in their nature, as much as cognitive.

- By contrast, some claim it overemphasized social influence at the expense of individual psychological factors (e.g. McKinlay & Potter, 1987; Parker, 1987).

- Others have claimed that, since SRs are guided by history and tradition (Moscovici (1984) SRT does not allow adequate room for social change within the theory (Hermans, 2003; Jahoda, 1988; Potter & Litton, 1985).

- The theory also has difficulty with measurement. SRT is unclear about methods that should be used to uncover the SRs. Consequently various methods have been used to uncover the SR being studied.

Notwithstanding these limitations, the theoretical framework of SRT has been applied to understand a wide range of health-related issues including stem cell research (Jones & McMahon, 2003), mental illness (Morant, 2006; Foster, 2001), mad cow disease (Washer, 2006), Bird Flu (Joffe & Lee, 2004), Methicillin-resistant Staphylococcus aureus (MRSA, Washer & Joffe, 2006), Menopause (Pelcastre-Villafuerte, Garrido-Latorre, 2001), Severe Acute Respiratory Syndrome (SARS, Wallis & Nerlich, 2005; Washer, 2004) and HIV/AIDS (Campbell & MacPhail, 2002; Joffe, & Bettega, 2003). Consistent with the SRT assumptions, all these studies reported that social groups established widely shared, spontaneous theories in response to newly

encountered disease and health-related events which are forms of collective coping strategy in the face of the threat.

3.4 Social Representation of HIV/AIDS

A disease of the 'other'

In the context of HIV/AIDS, the social representation theorists (e.g. Joffe, 1996a, 1999; Markova & Wilke, 1987; Stockdale, 1995) have argued that, during the early 1980s to the 1990s when the phenomenon was relatively new and prevalence was low and AIDS became the main focus of public health education, the key feature of society's response was to link the disease to a group one did not identify with. The groups linked to AIDS in turn, were associated with perverse and aberrant sexual practices. According to the theorists, these social representations developed as a result of the experts' and the media's efforts to communicate the threat AIDS posed to the public. It is suggested that there are several aspects to this development.

Firstly, in the process of conveying an understanding of the newly-emerged disease, the experts used the name of the group then known to be mostly affected in the syndrome (Gay Related Immune Disease - GRID) and thus unwittingly formed an association between the new disease and the supposed "risk group". This way, the experts drew upon the images and metaphors that existed in the consensual world to ensure the new and unfamiliar threat got

understood and absorbed in a way that reduced the fear which surrounded it (Joffe, 1999; Markova & Wilke, 1987).

Second, the mass media (i.e. the present day channels of communication between the reified and consensual universes and to a lesser extent personal conversations) played a central role in the propagation of a “risk groups” representation of HIV/AIDS (Joffe, 1999; Wagner et al., 1999). In their attempt to inform the public about the new menace, they made frequent reference to which groups were at risk. The high risk group was further personified by great attention being given to celebrities who have contracted HIV such as Magic Johnson and Rock Hudson (Schoeneman, Schoeneman, & Obradovic, 2002). The media further expanded the ‘high-risk group’ to include Haitians and Haemophiliacs (Altman, 1986, 1995; Farmer, 1992; Lupton, 1999a, b) and later black Africans and other minority groups such as prostitutes when it became known that many heterosexuals in Africa have come down with AIDS, and that HIV can be transmitted through heterosexual intercourse (Joffe, 1999; Lear, 1995). The media further drew on the imagery and metaphors of plague and linked these to the out-groups, as had occurred historically (Crawford, 1994; Joffe, 1999; Joffe & Haarthoff, 2002; Lear, 1995; Markova & Wilke, 1987). Internationally, public health experts as well as the gay community have made attempts to thwart this assumption by emphasising that HIV/AIDS can afflict everyone who practises unsafe sex; yet the notion that AIDS afflicts mainly

certain groups of people with certain attributes has persisted (Joffe, 1999; Kitzinger & Peel, 2005).

The third aspect of the process involved the re-definition of the risk groups. To explain their vulnerability to the disease, society made use of the idea that this was due to their highly deviant behaviour (Brown, 2000; Gausset, 2001; Joffe, 1999). The risk groups were thus reduced to specific causal behaviours and then regrouped according to the belief that such behaviours were common to all members of these groups. Because it was seen as primarily a sexually-transmitted disease, the HIV/AIDS representation carried with it a strong moral overtone (Joffe, 1999; Lear, 1995). Lupton (1993) has suggested that the vacuum created by a lack of medical knowledge was filled with a morality which redistributed responsibility and blame along traditional 'othering' lines (e.g. Joffe, 1999; Gausset, 2001; Marston & King, 2006).

The fourth aspect of the development of the social representation involves shifts and developments within the consensual world of the public. Individuals in their communications with each other about HIV/AIDS, further shape and develop their everyday knowledge and stereotypes of the disease in a way that carries with it the ideology, values and intentions of the communicators and reflect the environments to which they both belong (Stockdale, 1995).

Social Representation and perceived vulnerability: The Social Representation Hypothesis

Those applying a social representation approach to HIV/AIDS have further elaborated on the implications of social representations that conceive the disease as a problem for at-risk out-groups who are to blame for their predicament because of their deviant behaviour (Joffe, 1996; Joffe & Bettega, 2003; Campbell & MacPhail, 2002; Campbell et al., 2007; Campbell et al., 2005; Deacon et al., 2005). Perceiving the disease as a problem for those in these out-groups and it arise because of deviant behaviour, those in the mainstream of society (the in-groups) feel relatively safe because the disease does not affect people like them and because they do not indulge in the deviant behaviour that causes the disease. Because they feel relatively safe, they fail to take adequate precautions in their sexual behaviour. Thus, the nature of the social representations of the disease gives rise to unsafe sexual behaviour. We shall call this the 'Social Representation Hypothesis'. Its testing forms a major focus of this research.

Helene Joffe, in her book "Risk and the Other" (Joffe, 1999) has elaborated on this claim in more detail. She drew on a wide range of ideas and evidence to support her argument. Numerous descriptive sociological studies do suggest that dominant groups tend to blame out-groups for threats to society. From within psychology, the 'fundamental attribution bias' (attributing good

outcomes to one's own efforts, but bad outcomes to external factors) and the 'optimism bias' (underestimating the risk of bad outcomes happening to oneself) are viewed as laying the foundation for the blaming of others and the feelings of relative safety from threat. Kleinian psychodynamic ideas are used to support the suggestion that people are motivated to protect themselves from anxiety and do this by projecting the threats onto others.

Evidence to support the Social Representation Hypothesis

SRs theorists have presented evidence in support of their claims that HIV/AIDS is blamed by societies on certain out-groups; that this results in a reduced perception of risk by those in the mainstream of society; and that this, in turn, leads to a failure to take sufficient precautions in their sexual behaviour. Below are reviews of 14 studies that applied the SRT approach to understanding of the origins and spread of HIV. The electronic reference databases that were searched for the articles included Medline (OVID), PsychINFO, EMBASE, CINAHL, Educational Resources Information Centre (ERIC), AIDSLINE, Web of Science (ISI), Sociological Abstract (CSA) and PubMed. Using the search terms: “social representations”, “HIV/AIDS” and “sexual behaviour/condom use” 150 articles published between 1994 and 2009 were found. Of these 150 articles identified, only 15 address the theory’s suppositions about origin and spread of HIV/AIDS and/or the risks groups and/or threat appraisals of the

sample. The remainder did not address those issues and so were excluded. One was a conference presentation. Once more, no quality filters were used during the selection of the articles because of the paucity of the published articles that address the theory's suppositions about origin of and spread of HIV/AIDS and their associated threat perceptions. The 15 selected studies were also not limited to Africa, and included both qualitative and quantitative reports. One of the 15 articles however, was excluded from the study because although the abstract was in English, the main text was written in Czech. The selected 14 articles are reviewed in the following paragraphs.

In an attempt to support the social representations hypothesis, Joffe (1996b) used in-depth interviews to explore the social representations of the origin and spread of HIV/AIDS and groups at risk of HIV infection among 60 gay men (British = 30 and South Africans = 30). A third of them were HIV positive. Joffe reported that the participants projected the bad onto the "other" to protect identity. For example, 75% of the White participants (both British and South African) indicated that HIV originated in Africa, while 85% of the Black participants indicated that AIDS originated in the West. Also, a third of both British and South African participants denied that HIV/AIDS affected their particular social group and two thirds of both British and South African participants (excluding those with HIV/AIDS) indicated that their risk was low.

Also among those who have applied the SRT to the origin and spread of HIV/AIDS were Goodwin et al. (2003). In a study that involved a sample of 511 health care professionals and business people, in a number of Central and Eastern European countries, Goodwin et al. utilized individual interviews and free association to the stimulus word 'AIDS' to uncover the social representations about the origin and spread of HIV/AIDS. They found that the groups identified as high-risk tended to be out-groups, with Africans identified as those most at risk (68%) followed by people from the gay community (41%) and then drug-users (40%). Perceptions of personal risk were low among the participants. For example, 42% of the Russian business people who took part identified themselves as being a low risk. However, only 19% of the participants directly blamed the out-groups for HIV/AIDS.

Goodwin et al. (2004) in another study of 494 medical personnel and business people from the same countries used free association to the stimulus word 'HIV/AIDS' to uncover the social representations about HIV/AIDS, and used factor analysis and individual differences multidimensional scaling analysis to establish the structure and content of representations of HIV/AIDS. They found that HIV/AIDS is associated with certain groups the participants did not associate with. Two major factors underlay the representations: the sexual component, including prostitution and casual sexual, and 'deadly disease' suggesting the fear associated with the epidemic. The two factors explained 51.2% of the variance in the representations. There were some demographic

differences. For example, Georgian respondents associated AIDS most closely with homosexuality and casual sexual activity while, the Russian respondents formed the closest associations between AIDS and Drug use and Africa. There were no significant occupational differences in the representations. Goodwin et al. however did not report on the participants' personal sense of threat or blaming of the out-groups.

Goodwin et al. (2004a) used open-ended questionnaires to elicit the social representations of HIV/AIDS sexual behaviour among 250 adolescents in Russia, Georgia, and the Ukraine. They reported that the young people had common sense representations of HIV/AIDS that linked AIDS to out-groups similar to those found among the adults within the region. The participants tended to identify out-groups as being at high-risk. For example, 75% of the Georgian participants linked HIV to gay people, and claimed they were more likely to get it. The researchers did not report on the participants' blaming attitudes or personal sense of vulnerability.

Goodwin et al. (2004b) further explored the relationships between sexual behaviour, injecting drug use, knowledge and social representations of HIV of among 1,029 adolescents in Russia, Georgia, and the Ukraine. Using semi-structured interviews and questionnaires they found the young people associated HIV/AIDS with injection drug users, homosexuals and people associated with improper social behaviours. Although Goodwin et al. did not

directly report on the participants' personal sense of threat, they suggested that despite the relatively risky lifestyles, they did not consider themselves at being at risk of HIV infections. The researchers did not report on the percentage who practised safe sex (condom use), but stated that the out-of-school adolescents were more likely to engage in risky lifestyles.

Palacios and de Alba (2006), in a study of the social representations of AIDS among university students (N=400, aged 17 - 25) in Mexico that used an open ended questionnaires and multiple choice questions questionnaire, found that homosexuals and sexual service workers were considered the groups at highest risk of HIV infection. Children and promiscuous people were also considered as being at some risk as well. In contrast to other work within the SR tradition, the participants reported a relatively high perception of personal risk. For example, when their sexual behaviours based on faithfulness and abstinence was explored, they report fear of being infected, which they claim interfered with their sexual freedom. The researchers did not explore their beliefs about the origin of HIV.

Joffe and Bettega (2003) using semi-structured interviews explored how 60 secondary school students in Zambia represented the origin, spread and risk of HIV/AIDS. They found that AIDS was linked to the West, homosexuality, teenage girls, traditional diseases and God. The participants' concept of AIDS was filled with issues of blame and punishment from God for behaving badly

and relative good health was perceived as a reward for being morally good. A number of illnesses were also associated with AIDS. Its spread lay beyond the control of adolescent boys and men. Although female adolescents, as a group, were implicated by the sample in the spread of HIV, at a personal level both the male and female participants reported a low personal sense of vulnerability to HIV. However, their sense of low personal risk may be due to the fact that only 28 per cent of the sample admitted that they have ever had sex.

Niehaus and Jonsson (2005) utilized in-depth interviews with 70 South Africans and found that, whereas the males implicated the West mainly Americans and conspiracy theories in the origin and spread of HIV/AIDS and blamed them together with soldiers and governments for the spread of the disease, fewer of the females attributed the origin to the West and mainly blamed men and envious nurses for the spread of the virus. The authors did not report on how vulnerable the participants felt to the disease.

Howard (2006) used questionnaires to elicit the social representations of HIV/AIDS among 200 undergraduate students in South Africa. Howard found that whereas a third (33%) claimed HIV originated in Africa, a third (34%) also claimed it was from the USA, but the remainder provided no response to the question. However, 60% believed the “other” is more likely to get HIV. For example, 76% stated that Black females have the highest risk of contracting HIV, followed by Black male homosexuals, whilst only 10% suggested that the

Black heterosexual male and 14% the White female belonged to high risk group. According to Howard, despite the majority (60%) of the participants practicing unsafe sex, 87% reported little or no personal risk and 13% medium risk, but none indicated that they were at high-risk of HIV infection.

In South Africa, de Klerk and Willis (2007) using semi-structured interviews and focus groups explored the social representations of AIDS amongst White female teachers (N = 25) in Johannesburg. The analysis of the interviews suggested that the teachers anchored HIV/AIDS to Black South Africans and in the context of stereotypes about black sexuality and vulnerability. The teachers also reported a low sense of personal risk of contracting HIV/AIDS. However, the focus group discussions revealed a contradictory view whereby the representations of HIVAIDS were externalized to the new and modern South African and anchored in their contemporary cultural images of South Africa.

Howard-Paynea and Kiguwa (2008) also used both open and closed ended questionnaires to elicit the social representation about HIV/AIDS and its associated risk perceptions among 200 university students in South Africa. They found that most of the students (76%) attributed the origin and spread of the disease to groups they did not affiliate with. For example, the majority claimed the virus originated in the West and associated it with colonialism and apartheid. The West and colonialism, together with prostitutes and promiscuous people in general, were blamed for the spread of the disease within the country.

Howard-Paynea and Kiguwa reported that although a large majority of the participants were knowledgeable about the disease, the knowledge was highly influenced by the representations that existed around the virus. For example 69% of the males believed HIV/AIDS is a man-made virus that the West made to kill and wipe out black South Africans. The majority (78%) reported a personal sense of invulnerability to the disease.

In a content analysis that attempted to discover and characterize pictorial stereotypes of AIDS in 79 abnormal psychology textbooks published from 1984 through 2001 in the United States, Schoeneman et al. (2002) found that the majority of the identified 106 pictures relating to HIV/AIDS constructed AIDS patients as the "Other". For example, most examples of those coded as heterosexual were African American. The authors also suggested that the pictures showed AIDS as a disease that has causes that are controllable by its victims

3.5 Critique of the evidence

The above review suggests that people do tend to associate HIV/AIDS with out-groups. With the exception of except Palacios and de Alba (2006) and Howard-Paynea and Kiguwa (2008), the groups also provided evidence of a low threat sense of threat of HIV infection amongst the participants. A few of the studies also reported high rates of unsafe sex among the participants (e.g.

Goodwin et al., 2004b; Howard, 2006), though this was not always the case (e.g. Joffe & Bettega, 2003). However, it is questionable that this body of work provides good evidence for the social representation hypothesis (i.e. that blaming out-groups reduces the sense of personal risk, which in turn leads to a failure to take sexual precautions). The evidence is of these three variables co-existing in the same sample. This is not particularly convincing evidence of a causal relationship between the three. The fact that both blaming out-groups and reduced threat perception (reduced perception of threat and unsafe sex) occurred in a sample is not evidence that one led to the other. Alternative explanations of their co-occurrence are readily available. For example, the reduced sense of risk might be due to the fact that the participants were not at high risk, which in turn could occur for many other reasons. For example, Joffe and Bettega (2003) reported a reduced perception of risk, but they also note that many of their sample said that they were not sexually active. The fact that they were not sexually active could be the reason why they felt relatively safe – not the fact that they associated HIV with out-groups.

A more robust method of gathering support for the social representation hypothesis may be derived from the consideration of individual differences and the statistical relationship between those differences. Individuals within a society undoubtedly vary in terms of their blaming/distancing attitudes, their individual perceptions of risk and the safety of their sexual behaviour. If the claim is valid, then one might expect that those with more blaming/distancing

attitudes would perceive themselves as being at less risk; that those who perceive themselves at less risk would engage in more unsafe sexual behaviour; and that those with more distancing attitudes would engage in more unsafe sexual behaviour (more specifically, that there would be a significant relationship between distancing strategies and unsafe sexual behaviour that was mediated by a reduced sense of personal risk).

An individual differences approach to the relationship between distancing attitudes, risk perception and sexual behaviour

The social representation hypothesis bears a close resemblance to an idea that appeared in some cognitive behaviour models of health behaviour: the AIDS Risk Reduction Model (Catania et al., 1990; Fisher & Fisher 1992). This is the idea that people with highly stigmatizing attitudes towards HIV/AIDS are likely to stereotype people with HIV/AIDS as belonging to morally weak and inferior groups to which they personally do not belong; and this classification of the disease as being a problem for others allows them to feel safe and hence they do not take sufficient precautions in their sexual behaviour (e.g. Volk & Koopman, 2001; Parpan-Blaser, Niderost, Gredig & Deringer, 2004). However, investigations of this idea have taken a different scientific methodology to that used by the social representation theorists. The basis of the method is correlational and looks at whether individual differences on a set of variables co-vary in the predicted manner. As suggested in the previous paragraph, if this

suggestion from the ARRM is correct, then those with more stigmatizing attitudes should take fewer precautions in their sexual behaviour, and this relationship should be mediated by a reduced perception of personal vulnerability to the disease.

3.6.0 Links between distancing, threat appraisals and protective behaviours.

3.6.1 Distancing and threat appraisals

There are few studies relating to this issue. Moore and Rosenthal (1991) found that, among Australian adolescents, lower perceived risks were associated with stronger stereotyping of an AIDS victim.

3.6.2 Threat appraisals and sexual behaviours

Is there an association between reduced risk appraisal and reduced self protection? A number of studies have found that there is an association. Adih and Alexander (1999) found in a sample of Ghanaian men that perceived susceptibility related to actual condom use. Meekers and Klein (2002) also reported that perceived susceptibility to HIV was significantly associated with condom use with regular partners for females but not males in Cameroon. Mulatu et al. (2000) reported that perceived threat of HIV was associated with

both past and intended condom use among female students in Ethiopia. In Mozambique, Prata et al. (2006) found higher risk perceptions were associated with higher levels of condom use at last sex.

Other studies, by contrast, have found the opposite (e.g., Akwara et al., 2003; Mahoney et al., 1995; Maswanya et al.,1999; Maswanya et al., 1999). For example, Maharaj (2006) found greater perceived risk to be associated with higher sexual risk taking among sexually active young people in South Africa. VanLandingham, Suprasert, Grandjean, and Sittitrai (1995) in Thailand likewise reported greater perceived susceptibility to be associated with greater sexual risk behaviour. Akwara et al. (2003) found a strong positive association between perceived risk of HIV/AIDS and risky sexual behaviour for both women and men in Kenya.

One explanation of the inconsistency may be whether the study is looking at past behaviour or future intention (Albarracin et. al. 2001; Burkholder et al., 1999). Those who report raised levels of risky behaviour in the past may accurately report raised perceptions of risk; whereas those who report raised perceptions of risk may be likely to report more intention to practise safe sex in the future. Focusing on future intentions may be of more relevance to the social representation claim.

3.6.3 Distancing and sexual behaviours

Is there an association between distancing strategies and reduced self-protection? The evidence is mixed. Volk and Koopman (2001) in a Kenyan study looked at the association between the belief that HIV/AIDS began in the USA and condom use over the previous month. Contrary to expectation, they found that for the male participants, though not the female, endorsement of this belief was significantly associated with greater condom use. Volk and Koopman also reported that there was no association between stigmatising beliefs and condom use over the previous month. By contrast, Burkholder, Harlow and Washkwich (1999) in a study involving 481 sexually active heterosexual undergraduate students in the USA, did find a significant association between stigmatising attitudes and fewer precautions in sexual behaviour.

3.7 The mediating effect of reduced threat appraisals

Is the relationship between distancing attitudes and unsafe sex mediated by reduced threat appraisals? The only study that appears to have addressed this is the one by Burkholder et al. (1999). Contrary to expectation, they found that the link was not mediated by reduced threat appraisals. They present statistical evidence for an alternative account whereby the relationship is mediated by lowered condom self-efficacy beliefs. Using structural equation modelling, they suggested that greater stigmatizing led to lowered condom self-efficacy

beliefs, which in turn led to less condom use. However, although the statistical analysis supported this interpretation, Burkholder et al. did not offer any kind of theoretical interpretation of this finding. It is difficult to come up with one. Why should lowered self-efficacy beliefs about condom use lead to greater stigma?

3.8 Conclusion

In summary, evidence of an association between distancing strategies and reduced risk appraisal is very limited. Evidence relating to the association between distancing strategies and unsafe sex is inconsistent, as is the evidence relating to the association between reduced risk appraisal and unsafe sex. Only one study (Burkholder et al., 1999) has completed a mediation analysis, and it found no evidence to support the social representation hypothesis.

The main aim of research reported in this thesis was to subject the Social Representation Hypothesis to a more rigorous empirical test by means of investigating individual differences. Another aim was to compare the explanatory power of the distancing variables in relation to sexual intentions and behaviour with the explanatory power of the variables associated with one of the major cognitive models (specifically, the theory of planned behaviour). In the process of testing the Social Representation Hypothesis data were

collected about the beliefs, attitudes and behaviours amongst young people in Ghana and the U.K. related to safe sex. The next chapter reports on the first pilot study.

Chapter Four

4.0 Study 1: Qualitative Research

4.1 Introduction

The previous chapters (Chapters 1 and 2) provided an overview of HIV/AIDS and some of the cognitive behaviour theories that have been used to address the issues of HIV/AIDS - particularly, in an African context. Chapter 3 focused on social representation theory and the specific hypothesis about AIDS that has been suggested. Evidence relating to the hypothesis reviewed in Chapter 3 provided some support for the social representation hypothesis. This study is about the further test of the social representation hypothesis undertaken in the present research. This chapter gives a summary of the studies undertaken and describes the first smaller-scale preparatory phase and the preliminary test of the social representation hypothesis carried out amongst young people in the U.K. Material generated by the study was used to devise the questionnaire for the second preparatory study. The study also provided information about sexual attitudes and behaviours amongst young people in the U.K.

The present study attempted to build on previous work of social representation approach to HIV/AIDS in two ways: First, the study attempted to provide a more direct test of the central claim that distancing leads to lower risk perception and subsequently to higher risk-taking behaviour. This was done by exploring the question directly with the

participants themselves in the context of their own understanding of the factors that contribute to their assessment of their own risk status, and by statistically testing whether those who more strongly endorse beliefs about out-groups being to blame are more likely to show lower perceptions of risk, and whether lower perception of risk is associated with higher engagement in unsafe sexual practices. Second, the study sought to compare the effects of distancing on sexual behaviour with the effects of constructs from the Theory of Planned Behaviour (TPB) and Health of Belief Model (HBM) that have been shown to be associated with sexual behaviour.

4.2 Overview of the Study Design

Design

Six studies were conducted to test the social representation hypothesis. These were cross-sectional designs. The first two were smaller-scale pilot studies conducted in UK with adolescents aged 15-17, and comprised a qualitative (Study 1) and a quantitative study (Study 2). The next two studies were conducted in Ghana with students aged 16-26 years. The students were from selected secondary schools and a university. The studies provided the main test of the social representation hypothesis. Again, there was a qualitative study (Study 3) and a quantitative study (Study 4). The aim of the qualitative studies (1 and 3) was to generate ideas about the factors and language that were relevant in that culture to the issues under investigation. Study 4 was the main test of the social representation

hypothesis. Study 5 was a quantitative study conducted in Ghana with students aged 15 - 22. This fifth study tried to shed further light on this association using broader psychological constructs such as locus of control. Study 6 was a replication of the third study using students in the U.K. aged 18 to 29 years.

4.3 Justification for use of Young People

Young people were used for the study because reports from around the world suggest that negative outcomes of HIV/AIDS threaten the lives of people in their youth more than any other age group (Lamptey et al., 2006; UNAIDS, 2001, 2008; UNICEF, 2002; USAID, 2005). They are also the group at highest risk for new infection. During 2006, young people less than 25 years of age accounted for half of all new HIV infections worldwide (UNAIDS, 2007). At the same time, young people offer the greatest hope for stemming the HIV/AIDS epidemic (UNAIDS, 2001; UNICEF/UNAIDS/WHO, 2002). Country level reports show that HIV/AIDS preventive strategies among young people have yielded some positive results (UNAIDS, 2007). Many countries that have successfully decreased national HIV prevalence have achieved these gains mostly by promoting safer sexual behaviours amongst adolescents (e.g. Marston & King, 2006; UNAIDS, 2007, 2008; USAID, 2002). Nevertheless, a significantly large proportion of the youth continue to be affected by HIV/AIDS. A UN Declaration of Commitment that aimed to reduce HIV prevalence by 25% in young people (ages 15–24) by 2005 (UNAIDS, 2001)

was not met, even though there were some evidence of the adoption of safer sexual behaviours such as delayed sexual debut, reduction in multiple sexual partnerships and increased condom use (UNAIDS, 2008).

4.4 Ethical Concerns

Approval for the study was granted by the Ethics Committee for the School of Psychology, University of Birmingham, U.K. Copies of the approval letters are contained in Appendix A. The main ethical concerns were to protect the identity of the participants; to ensure proper informed consent; to avoid pressurising participants into taking part; and to avoid causing any distress to participants. An opt-in scheme was employed to recruit the participants. Both students and their parents/guardians signed consent forms before any pupil took part in the study. Additionally, participants' identities were protected by not including real names on any of the recorded data, except the consent form, which was kept separately. The students were free to withdraw from the study whenever they wished without needing to give an explanation. Their welfare took priority over any other considerations. Copies of the information leaflets and the consent forms are contained in Appendix B.

4.5 Methodology

4.5.1 Recruitment of Participants

To explore the views of males and females and younger and older adolescents (seniors and juniors) separately, eight focus groups (two focus groups each for males and females and one each for junior and senior students) were initially planned for the study. The number of focus groups and optimum number of people in a focus group were based on the recommendations of some experts (e.g. Lunt & Livingstone, 1996; Maykut & Morehouse, 1994; Morgan, 1988). These experts recommended that at least two focus groups from a homogenous group are better; one to complement the other's points as well as to fill in the gaps in the first discussions. For the number in each group, Lunt and Livingstone (1996) and Maykut and Morehouse (1994) suggested four to eight people and Morgan (1988) recommended four – twelve people.

However, only four focus groups were conducted because only one school out of eleven that were invited agreed to participate in the study. Also in the participating school, the lower sixth formers had yet to commenced school and so only the fifth and upper sixth formers were involved in the data collection. None of the selected participants dropped out of the study.

Participants for the study were recruited through their school. Twenty-nine male participants between the age of 15 and 17 were recruited from a

single-sex private school in a large city in the U.K. Initially, the head teacher was approached about the willingness of the school to co-operate. For his perusal and consideration, the head teacher of the school was supplied with copies of the ethical approval letter, and a covering letter from the researcher inviting them to take part in the study. When participation was agreed, the school was asked to nominate suitable classes to take part. Information leaflets with tear-off slips were distributed to all students within the age range 15 through 17, and in form five and sixth-form. Adolescents of this age group were selected because they belong to the target group of interest. Those who were interested in taking part were asked to return the slips to a designated teacher. 29 participants were then selected at random from those who expressed interest. Once they have been selected, they and their parents/guardians signed the consent forms. The 29 participants were split into four focus groups, with between 6 and 9 in each group.

4.5.2 Procedure for Focus Group Discussions

The focus groups took place on school premises and in a room assigned by the school. The groups were conducted during the break periods. A teacher was assigned to monitor the groups in case of misbehaviour. This teacher sat in an adjacent room with the doors opened. Participants sat in a circle around a table. There was self introduction of the participants. The researcher explained the aim of the session and then solicited questions from the participants and clarified issues. The participants were informed

that any information provided during the discussions would be used solely for the study and that their confidentiality was guaranteed. Consent was sought for the use of tape recorder and note-taking. The participants were asked to come up with their own ground rules after which additional rules that were considered relevant for the group discussions were added by the researcher. Some of the ground rules of the group were that participants should not discuss their own sexual behaviour or that of any other specific person, and should not discuss their own HIV-status and sexual health or that of any other specific person. Participants were told they could leave the group if they felt uncomfortable or distressed by the conversation. Any student wishing to leave the group was allowed to do so immediately without needing to give any explanation.

Participants were asked to come up with fictitious names for the purposes of transcribing the discussion. Sheets of paper and pens were distributed to the participant for them to write down their fictitious names and their thoughts. They were then given a short demographic questionnaire about their age, religion etc to complete (see appendix C). This was to help determine their social environment and the reason for their views about the topics discussed. They were then informed that some questions would be posed to them; and that they were to write down their thoughts first on the sheets of papers that had been given to them before discussing the answer with the group. Participants were informed that there were no right or wrong answers to the question. The first question was posed and participants allowed time to jot

down their thoughts. After the last question had been asked, the questions were taken one by one for the discussion. The first question was repeated and one of them was asked to volunteer to read to the group his answer to the question. After the volunteer had read what was written down the rest of them took turns to read what they had written down. Those with similar views read theirs first followed by those with dissenting views. Comments on what had been read were solicited with participants sharing their thoughts at random. They were encouraged to ask questions of each other. They were encouraged to say whatever came to their minds and not to be restricted in their responses. After everyone had responded to the question, those with more ideas/information were given the chance to add on to what had been said. The participants built on the ideas until the points were exhausted, and then the second question was posed. The process was repeated until all the questions were addressed. The discussions were audio-taped and later transcribed.

At the end of the discussion the sheets of papers that they wrote on were collected from them and used as part of the data. Participants were given 24 hours to notify the researcher if they wished for their contribution not to be transcribed. They were to make reference to their fictitious names to allow identification of their contributions in the transcript if they wished for their contribution not to be used. The group discussions did not exceed 60 minutes.

Specifically, four focus groups of 6- 9 were conducted. These were two focus groups with 15 year olds and two with the 17 year olds.

4.5.3 Measures

A list of themes based on previous work in the social representation approach (Joffe & Bettega, 2003; Goodwin et al., 2004) and additional questions about young peoples' views about perceived risk and safe/unsafe sexual practices were devised and used. The questions fell under four main headings: origin and spread of HIV/AIDS, perception of risk, risk groups and sexual practices among young people in general. The questions were open-ended. In addition, the participants completed a demographic questionnaire as well as answered one question on whether they personally knew someone who is HIV positive. (Appendix C contains the list of questions, demographic questionnaires and ground rules.)

4.5.4 Justification for use of Focus Groups

Focus group discussions were used to generate ideas about the participants' social representations of HIV /AIDS, risks and sexual behaviours, and about the language the participants used when talking about these matters. Lunt and Livingstone (1996) described focus groups as a microcosm of "the thinking society" capable of revealing the processes whereby social norms are collectively shaped through debate and argument (MacPhail &

Campbell, 2001). Focus groups have often been used to elicit the social representations of HIV/AIDS (e.g. Campbell et al., 2007; MacPhail & Campbell, 2001; Herzlich, 1973). It has been suggested that the social aspect of focus groups gives them an advantage over other methods of eliciting social representations, such as free association or individual interviews. Moscovici (1984) suggested that social representations are not simply individual constructions, but rather a collective shared organization of meaning through which a community aims to sustain a particular view of some aspects of the world. Jaspers and Fraser (1984) argued that the use of everyday forms of communication including anecdotes, jokes, humour, teasing, argument and language that people use in day-to-day social interaction are useful ways to tell more about people's knowledge and experience. Kitzinger (1994, 1995) also argued that, through discussion and debate, focus groups can facilitate the expression of ideas that might be left underdeveloped in individual interviews. For example, in a study of the lovers of people with AIDS, Geis, Fuller and Rush (1986) found there were more angry comments about the medical community in the group discussions than in the individual interviews. Additionally it has been suggested that focus groups maximize the expression of perspectives not imposed by the researcher because the facilitator is in less control of the dynamic of the group process compared to individual interviews (Morgan, 1997; Owen, 2001). Another potential advantage of focus groups over interviews was that participants might find it difficult to be open and honest about sexual matters in an individual interview with an adult researcher, but

they might be more open and honest when discussing these matters with each other in a group context. Also, since people's knowledge and attitudes are not entirely encapsulated in reasoned responses to direct questions (Kitzinger, 1995); and sexual decision making is not always based on rational volitional thinking (Aggleton & Parker, 2002; Parker 2004), it was thought that focus groups might reveal some of the implicit meaning associated with the sexual behaviours and HIV among young people.

There are however, some potential disadvantages of focus groups. Sometimes it may be difficult for the researcher to clearly identify an individual message because of the complexity of content in a group discussion (Morgan & Kreuger, 1993; Kitzinger, 1994, 1995). Another disadvantage is that the articulation of group norms may silence individual voices of dissent. However, this aspect may have its advantages. Such interactions could highlight certain aspects of the experiences of dissenters from the group norm. Focus groups are also limited in terms of the extent to which the findings can be generalised to a wider population, mainly because of the small numbers of participants, who may not be representative of the wider population.

4.5.5 Data Protection

No record was kept of the names of the participants other than their signature on the consent forms. Only the fictitious names were recorded in

the transcript; the real names of the participants were not entered in the transcript. So there was no way of connecting the signed consent forms to specific contributions in the transcript. Also, as soon as the transcription has been completed, the audio-recording was deleted. Audio-recordings, transcripts and consent forms were kept in a locked filing cabinet when not in use.

4.5.6 Characteristics of the Sample

For this study 29 young people between the ages of 15 and 17 (mean age of the participants was 15.9 years with a standard deviation of 0.94) were recruited. Christians constituted 52% and Muslims 24%. The remaining 17% were either atheist, agnostics or had no stated religion. The fathers of 62% of them were professionals and 59% of their mothers were professional. Sixteen percent of the fathers and 23% of their mothers held skilled jobs. The remainder held uncategorized jobs. Out of the 29 participants only three knew someone who is HIV positive.

The sample would only be representative of the wealthier sections of society because it was a private school and the parents of the students had to pay for their child to attend the school.

4.6 Data Analysis

The main purpose of the focus groups was to generate information about the participants' beliefs and attitudes about: the origins and spread of HIV/AIDS; their vulnerability to the disease; and various safe and unsafe sexual practices. These issues formed the overarching themes that were used to guide the analysis. Analysis of the data therefore followed the 6-step guide of thematic analysis described by (Braun & Clarke, 2006). This method was chosen to analyse the data because it is flexible, acknowledges the ways individuals make meaning of their experience and in turn, the ways the broader social context impinges on those meanings. The thematic analysis approach thus combines a realist method that reports experiences, meanings and the reality of participants and constructionist method that examines the ways in which events, realities, meanings and experiences are the effects of a range of discourses operating within society (Braun & Clarke, 2006).

Firstly, to familiarizing myself with the data, the transcribed data were read through a number of times, noting down initial ideas and interesting features relevant to the aim of the study. Secondly, the initial ideas and interesting features of the data such as the language used and semantics (both stated and implied) were then noted and generated into codes in a systematic fashion across the entire data set whilst collating data relevant to each code (Step 2 of the process). The answers given by the groups were very similar, and so, the codes of the four focus groups were pooled together. The coding

process was thus more heavily structured than is typically the case in qualitative research. After all the data had been coded and collated into a long list of the different codes identified across the data set, the collated data were again searched and codes were gathered into potential themes. All data relevant to each potential theme were then gathered (Step 3 of the process). The generated themes were checked and refined in relation to the coded extracts (at the level of the coded data extracts) to determine whether they appeared to form a coherent pattern; and then in relation to the entire data set (Step 4 of the process). The fifth step involved a further review of the themes to refine the specifics of each theme and the overall story the analysis tells while generating clear definitions and names for each theme. More specific themes that address the research questions within these broader categories were generated. The language used by the participants in discussing the issues was also noted. The sixth and final step involved the selection of examples/extracts which demonstrate or capture the essence of the relevant points and relate to the research question and literature.

To establish the reliability of the analysis, an independent rater, using the coding scheme of the researcher, coded about 30% of the pooled transcript. There was 89% agreement, indicating reasonable reliability.

4.6.0 Findings

The findings are reported in five dedicated sections covering the main themes, addressed below. Age and religious beliefs are reported for those

individuals whose views were different from the majority of the group.

4.6.1 Social Representations of origin and spread of HIV/AIDS

4.6.1.1 Origin of HIV/AIDS

When participants were invited to express their views about the origin of HIV, they mentioned mostly Africa or America. Whereas most in the sixth formers' groups mentioned America as the origin of HIV, many of those in the junior groups mentioned Africa. Nevertheless the dominant representation of AIDS was as a biomedical condition acquired through sex or sexually deviant behaviours, and/or the natural process of mutation of different diseases.

Further to the above, where Africa was mentioned, the main discourse about the origin of HIV was promiscuity, a cocktail of diseases and a gamut of problematic socio-economic conditions including poverty, unsanitary conditions and personal hygiene issues. Additional representations included the idea of vaccination and medical experimentation leading to the mutation of different viruses into HIV; and the ideas of the virus evolving naturally and transmission from animals. Excerpt 1 shows some of the dialogue about the African origin of HIV. The participants drew on four key resources in their construction of origin and spread of HIV in Africa: African hyper-sexuality; Africa as the Dark Continent riddled with diseases, unsanitary

conditions, poverty and ignorance; biomedical engineering; and the natural process of virus mutation.

Excerpt 1.

H: HIV is believed to have originated on the continent of Africa, transmitted from monkeys into the human population

KS: HIV started in the 1960s in Africa, due to lack of safe sexual practices; due to lack of knowledge and money

RK: It started from having unclean genitalia and sexual activity being high leading to a disease (virus) being formed in South Africa.

JC: Zimbabwe, I think it might be a different disease that mutated or something like that

G: I think it came from Africa, but maybe with Germany experimenting with monkeys

H: HIV is believed to have originated on the continent of Africa, transmitted from monkeys into the human population

The main discourse around how HIV originated from America (or sometimes Western Europe) was aberrant sexual activity by homosexuals residing there and/or malpractice by scientists. However, some who believed HIV originated in America refused to speculate about how the virus emerged. Excerpt 2 below reflects what was said.

Excerpt 2.

E: I think it started in California in America in the 70s where a gay person had sex with a monkey

F: I think it came from America but I have no idea how

The older participants were more likely to mention sex, compared to the younger ones who mentioned poverty and unsanitary conditions etc. In accordance with other social representation research (Joffe, 1995; Goodwin et al., 2003), many of the representations occurring in the data anchored the origin of HIV/AIDS to 'the other' person who was immoral, ignorant or poor and lived somewhere else.

4.6.1.2 Spread of HIV/AIDS

Although there was variability in their belief about the specific location of where HIV originated and how the virus came into being, the participants were unanimous in their views about how HIV spread across the word. Their main factors were identified as migration and unprotected sex by infected homosexuals and Africans (see excerpt 3& 4 below). These groups of people were believed to have spread HIV without being aware of their HIV positive status. The spread through blood transfusion was mentioned by a few, but notably absent in participants' accounts was mother-to-child transmission of HIV.

Excerpt 3.

M: people board the airplane and it got to us here
C: people imported prostitutes and they had unprotected sex
KS: it spread due to migration of some people with HIV, for example asylum seekers move to England and reproduce
H: Generally movement of people move and they have sex because they don't necessarily know they have it so they spread it.
A: yeah, I think also because it's very well like, quite disease you

can contract it without realizing you've got it for so long that people can spread it without realizing that they are spreading it.

E: Polygamy of the gay community contributed greatly to its rapid spread.

F: And also people didn't know it could be transferred through other means like blood transfusion and when it they found out later on when it already had already been spread a great deal by that method.

4.6.1.3 Reasons for high prevalence of HIV/AIDS in Africa

Several ideas emerged in relation to the spread of HIV and why HIV/AIDS is so common in some parts of Africa: These included sexual promiscuity, polygamy and lack of education about safer sex practices. Some attributed the extensive spread of HIV in Africa to unavailable and unaffordable protection and ignorance; and to diseases and unsanitary conditions leading to the natural process of virus mutation. A few participants mentioned the effects of tribal war in some parts of the continent. Amongst these ideas, African sexuality was the dominant resource drawn upon to explain the spread of HIV/AIDS. Africans were portrayed as polygamous, hypersexual and promiscuous (see excerpt below).

Excerpt 4.

Ab: Basically, from that question I said from Africa, because most people majority people over there want to have more children so they can work and have more money so they have unprotected sex, (with) um people who have the disease so the disease just spread all these years.

D: And also I thought I would mention, also poverty and

prostitution or something like that in Africa, may (be) one way um they can get it and have unsafe sex because they can't get condom

G: and they have lot of unsafe sex

Fn: and the unprotected sex with prostitution

Fa: and also maintaining mistresses in some places in Africa because to maintain other people outside the relationship; outside marriage in that country and that kind of contribute to the spread.

E: In Rwanda, it wasn't; a lot of them were raped when the genocide came on and that is when it spread quite a lot.

Fn: Lack of information so it means the people don't know they lacked so they don't know what they were doing so they don't really have a chance.

D: contraception can be unaffordable

G: Contraception is unavailable and it is difficult because it is a wide spread continent

A: and also promiscuity is also an issue

R: Promiscuity is also not in their vocabulary.

For the extensive spread of HIV/AIDS within Africa some blamed the African governments and other authorities and experts like doctors for not doing much to stem the rapid spread of HIV on the continent. African governments were objectified as corrupt and irresponsible, who did nothing to prevent the spread of the disease. Also, whereas some blamed condom manufacturers for making condom use unaffordable to the African, others implicated Catholics and Catholicism for the spread of HIV/AIDS because of the church's stance on contraception use.

Excerpt 5.

Js: I would blame the Governments for lack of public knowledge

A: I would blame the doctors for not making enough known
Jo: and also the condom manufacturers making them so expensive
ST: well, some countries, I think the government would be a rule to make the subject about it but they don't like to talk about it
F: I would blame the people's ignorance because it's not like I don't understand why you can't take personal responsibility.
R: there in the Catholic Church claim; no contraception, so they haven't got a choice, that's why I think it spread in Africa
D: Yeah but there was marriage.
F: they say no sex before marriage
R: Exactly! The concept of no sex before marriage
G: yea, that concept.

4.6.1.4 Risk Groups

The participants' responses to the question "what kind of person is most likely to get HIV/AIDS in this country" were Black British, ethnic minority groups from Africa, prostitutes, homosexuals, intravenous drug users, and poor people. These groups of people were perceived as being more at risk of HIV because they share a common pattern of risky sexual practices. HIV/AIDS was thus perceived as mainly a sexual plague that affects people who are perceived as not part of mainstream society. A smaller number of participants implicated other factors such as poverty and the general practice of unsafe sex. To these participants, poor people are likely to get HIV because they either cannot afford protection or have a lot of unprotected sex in order to have more children for benefits.

Excerpt 6

M: People from ethnic minority; those on support and benefit

J: Prostitutes and casual sex people because, they can't avoid HIV because they've got a wide spectrum of people they have sex with so they've got more chance.

GB: and also Blacks and poor people are likely to get it

C: Poor people they want to have children so that they can have a higher income

Jn: and homosexual people also; it's most common in homosexual and their partners

Fn: They have got a lot of circle of partners so they could be infected

Fa: in this country particularly, drug users with needles are likely to get it because, their needles are often unclean and they can spread the virus

E: For me I don't think it's a specific type of person, like a gay person, but anyone who is having unprotected can get it.

The participants who are more likely to be representative of students from the wealthier sections of society distanced themselves from the "others" who are at the margins of society and positioned as repositories of the virus. The characterization of HIV as a disease of the amoral, the ignorant or the poor, connotes a 'social comparison' that could result in the possible assumption that one's social group is immune from the virus. This construction of HIV/AIDS as originating from somewhere else, brought into society by "the other" and affecting out-groups in the society, who have certain tags on them, is consistent with what has been reported by social representation theorists (e.g. Goodwin et al., 2004; Joffe, 1996, 1999; Joffe & Bettega, 2003).

4.6.1.5 Blame Groups

There were mixed responses about those to blame for the spread of HIV. While some said it is accidental, others felt it was deliberate and placed blame on the groups of people responsible for the spread. Those groups held responsible for the spread of the disease within the UK was expanded to include adults over 20 years of age and young people whose unruly behaviour is tagged colloquially as “chavs”. However, some did not blame anyone as being responsible for the spread of HIV in the UK except those who spread the disease intentionally. For example

Excerpt 7.

A: You can’t really blame any particular person.

G: unless the person is kind of willingly spread it like those cases it happened in the newspapers where a woman actually knew she has AIDS and spread it on purpose; unless it’s like that.

4.6.1.6 Perception of risk

According to the social representation hypothesis, depiction of ‘the other’ as the source of HIV infection and concurrent association with perverse sexual practices contributes to a feeling of safety in relation to the disease, and, because of this safety, less cautious sexual behaviour. To explore the participants’ level of threat associated with HIV/AIDS, they were asked directly about whether or not they feel threatened by HIV/AIDS and why they feel they are at risk or not. Questions about the personal risk of

contracting HIV revealed that a few believed themselves to be personally at risk, but most did not and the general feeling was that people like them felt safe. They felt protected by their education, chastity and by the idea that HIV affects only those on the margins of society and not those in their social group (excerpt 8).

Excerpt 8: [Reasons why people feel safe]

J: think we are more than graphically right to feel safe because a majority of us come from middle class background and we are educated on what to do, chances are we are not going to be stupid; not stupid, silly, we're probably going to be more prepared conceptually in contraception. We're going to be more educated

D: And contraception is available for us

F: and medical treatment in the Western world is improving rapidly so even if we did contract the virus, we wouldn't be under much threat of developing AIDS, still we would be HIV positive but we wouldn't die of AIDS.

A: even if I get it, I am going to get medication

F: and no-one is going to know you have it.

B: I feel safe because we are well, I'll say we have the knowledge, but we don't entirely but we know, we know, basically how it spread and we have to we have access to things - contraception - to stop it.

These findings offer some support for the social representation hypothesis. In part, they are supportive because participants reported feelings of safety because of membership of an in-group. In fact, the current findings extend previous research on this issue (e.g. Joffe & Bettega, 2003) because of the

direct link made by some of the participants in this study between feelings of safety and belonging to a socially-valued group (e.g. participant 'J' excerpt 8). Previous researchers within the social representation approach tended not to directly explore or report the reason why their participants had low risk perception, but assumed that by distancing themselves from the perceived risk groups the participants felt less vulnerable to the threat of HIV. However, it is worth noting that the reasons given for the feelings of safety were that the 'in-group' (educated people, the West etc.) knew how to protect themselves against the threat. Participant 'J' (excerpt 8) reported that people like him felt safe because they were educated and therefore knew how to protect themselves against infection. This is less consistent with the social representation hypothesis. The hypothesis states that, the sense of safety induced by belonging to the in-group results in less cautious sexual behaviour. However, for participant 'J' and others, the sense of safety arose because the in-group knows how to practise safe sex. If this is how in-group membership is partly understood, then reckless sexual behaviour would be inconsistent with their sense of in-group membership. Thus, although the results were consistent with the social representation hypothesis that a sense of safety from the disease arises from membership of in-group, the findings were less supportive of the idea that this sense of safety then leads on to reckless sexual behaviour. Membership of the group is, in part, defined by behaving sensibly in sexual contexts – not behaving recklessly.

4.7.0 Beliefs about Safe and Unsafe Sexual Behaviours

Personal attitudes towards various safe and unsafe sexual behaviours, and perceptions of the attitudes amongst their peers, were explored in preparation for an investigation of the role of such attitudes in sexual behaviour and intentions.

4.7.1 Abstinence

When asked about their personal views about a boy or girl of their age who had never had sex, they were almost unanimous that there is nothing remarkable about it. According to the participants, most of the boys were virgins and so they did not appear to have any negative attitudes towards abstinence. However, when it came to asking about how their abstinence might be perceived by young people generally, more negative attitudes were apparent. They felt that those who were sexually experienced would make fun of such boys and call them names like 'virgin boys' or consider them 'gay'. The consensus was that, in their school, such boys would not be made fun of because the majority of them had never had sex, but outside the school they believed opinions would be divided. This view was summed up by participant ST (excerpt 9). Participant 'J' suggested why some boys make fun of other boys who had never had sex (excerpt 9).

Excerpt 9

> J: I think people, people who think of themselves as tough are more likely to make fun of somebody else. They consider it macho to have had sex, so they will consider

somebody who hasn't had sex as gay.

ST: I think it will be about fifty-fifty; some people will probably make fun of you if you don't have sex; a lot of people won't mind

Attitudes towards girls who chose abstinence were somewhat ambiguous. It was generally perceived as making the girl 'respectable'. However, if the choice was made in the context of an existing relationship, this could be viewed as more questionable. Although some said that the decision should still be respected (particularly if there were 'good reason' for it – such as the girl not feeling ready for a sexual relationship because of previous sexual abuse), others felt that the girl should not be in a relationship if they had chosen abstinence (excerpt 10).

Excerpt 10

H: I think it's more respectable for girl not to have sex

G: but for a boy no!

D: so it's okay for a boy to have sex, but not a girl.

Fn: Stereotypically, the boy is supposed to chase the girl, so the girl is not suppose to; its like you are good girl you've kept your (…)-

D: what about a girl who agrees with the boyfriend not to have sex till they are married.

E: I think people would still respect at least couple's decision, but if it is sort of casual relationship them maybe they will laugh at them

G: Sort of progressing into marriage they will still respect it.

H: Some will be happy.

Fn: I think it will depend on their views; if they are religious, maybe Catholic then you can understand that both will be happy with it.

But say someone not religious they don't believe in them then it might cause a bit friction.

Fa: It depends on her reason. If she's got properly good reason, yea, like she was abuse as a child, then and she was not ready like, then the boyfriend should agree.

H: she should not have been in the relationship anyway

Fa: if she does not want to mess around

Js: any reason for not messing around at all

E: She shouldn't be with him in anyway,

Fa: she should get out!

The idea of abstinence for boys had fewer positives associated with it (excerpts 10 and 11). It was not seen as making the boy more respectable (excerpt 10) and the idea of a boy choosing abstinence when the girl wanted sex seemed almost inconceivable (excerpt 11). Few, if any, participants in the groups intended to remain celibate until marriage.

Excerpt 11

D: What about if the boy doesn't want it and the girl wants it?

Fa: This is not going to happen

R: you are not going to make good impression with the girl

Fo: Most boys expect it anyway, why won't they want to?

G: Because most people just expect it, if you like the girl why should you not want to? I mean the guy chases the girl there is no point stopping it.

E: why would you stop it?

Couples who chose not to have sex before marriage were also viewed by many in a less than favourable light. For some, it was considered important to know one another sexually before committing oneself to that person for

the rest of one's life. For others, however, there were religious reasons to choose celibacy and the right to this choice was defended (excerpt 12).

Excerpt 12

D: What about a boy who agrees with the girlfriend not to have sex before marriage

RK: That is a bit too far, because, I think you've got to know someone sexually before you just spend the rest of your life with them. So if they don't want sex before marriage and they don't agree with themselves sexually they may agree personality wise but if are not accustom to their bodies then they get married, then they are going to have bad marriages which will be bad for their kids

D: How?

RK: If the parents aren't affectionate with one another and are cold each other then they can teach the kids to have, or they may have kid because it's the thing to do but not that they enjoy sex so …?

JC: I think if two people like to love each other they don't need that sex and they love each other then, that's their problem.

JD: Yea, as a Muslim we are not likely to have sex before marriage so we cannot have sex before marriage

4.7.2 Multiple Sexual Partners

Many of the participants viewed sex with several partners as something that males are driven to by their genetic make-up; and that it is a goal that many males aspire to because of the social respect this earns them (excerpt 14). By contrast, females who had multiple partners were viewed in entirely negative terms (excerpt 14).

Excerpt 14

D: what about sex with several people

R: it depends; if it's a girl then people would say she is sly if a boy, it's more exciting for a boy; I don't know. I don't know why.

F: because its sort of completely different chromosomes, difference characteristics so you can't sort of judge them the same.

E: I disagree with the idea

Fo: as a woman you would disagree with the idea.

E: but in society that is true but as a person I think it should be the same for both.

J: I think girls will be very, very much against it but a lot of boys we consider it to be really a sign of honour.

R: Actually honour.

A: Possibly!

Fo: it can't be the same because of sex difference, chromosome.

AT: yeah! It's not that same; in reality it's not the same,

D: in principle it should be the same but [in reality it isn't]

Fo: it is the same in principle but it's not the same because of different sex drive, different laws of attraction between men and women; it can't be the same because of sex difference, chromosome.

4.7.3 Condom use

When asked about condom use in general, the participants unanimously stated that it is sensible to use condoms if one is sexually active. Although the participants did not generally perceive condom use in a negative way, there were issues raised about a girl carrying condoms in her bag, in case the need for it arises. Similar to the issue of multiple sexual partnerships, girls who carried condoms were negatively perceived by the boys as 'sluts',

'tarts' or 'easy'. They claimed "if she is just carrying it in her bag then she is prepared to do it anytime, anywhere and with anyone".

A few, however, considered it acceptable for a girl to carry condoms in her bag for future use; but even these participants felt this should not be with the intention of looking for sex (excerpt 15).

Excerpt 15

J: You never know when she might end up having sex and if the man doesn't have a condom and a woman has a condom what; and you want to have protected sex; you can have it. So, if it's normal for a man to carry a condom a woman can carry it as well.

Many were of the opinion that it is the boy's responsibility to carry condoms but that should not be with the intention of looking for sex. Those in the habit of carrying condoms with such an intention attracted some ambiguous and negative labels (such as 'player', 'pimp', and 'gay'). Hostility towards carrying condoms tended to be stronger amongst younger boys and those with religious affiliations.

Insisting on condom use in a sexual relationship was viewed somewhat negatively, whether the person insisting was male or female. Such behaviour was viewed as liable to create a bad impression and reputation (excerpts 17 and 18).

Excerpt 17 (Thoughts about a girl who insists on condom use)

AA: good sense but!

CT: there is nothing wrong with it but, men wouldn't like that

TB: nothing wrong with it but, I suppose, its like Hollyoaks, if you are in a position ready to go and then she just stops you and said unless you have a condom then you don't; in society, men wouldn't like that.

JJ: even so you've got to respect her decision. Even so you've got to respect her!

GB: at least she would expect you to have one

MT: yeah, otherwise it's like rape.

JM: Realistically, men wouldn't like that, especially if they are drunk. I would even though society wouldn't like that, I would.

Excerpt 18 (Thoughts about a boy who insists on condom use)

JR: You get bad impression from the girl

J: well, you might well like to wear a condom in order not to get her pregnant.

AA: that's not be in the game

JJ: well, that usually why you wear a condom and not you might get AIDS it's just the excitement

CT: well, then I suppose in that case its something they've got to decide among themselves; then fair enough.

4.7.4 Sexual History

The participants' responses to the question "What would young people think of a person who asks their partner whether they have had an HIV test?" suggested that asking about the partner's sexual history, though sensible, could be construed as intrusive and rude. Comments included: "Not very tactful, because he is implying something there"; "...you might think, does she think I have AIDS", "...that is cheeky", "...yea, you'll kind of get

defensive". Conversely they would be offended should they be asked such a question. The dialogue below reflects some of the mixed feelings described.

Excerpt 20

Js: I think, (this) is not going to happen, but I think if you going to have sex with someone you've got a right to know because it's about your health as well and you've got a right to protect your health.

ST: Don't you think if you go asking people that sort of thing; it would be a bit intrusive. But, if a girl ask me that then I would probably be a bit offended at the time, but then when you start to think about it and the practicalities of it then it wouldn't be...

Ro: then there is no way you are going to have the sex with her

D: what if the person is just a casual partner

Sc: It might depend on how you see their sexual relationships with other people, so if you know that they are a bit of a player and go around, girl to girl most nights sort of thing and you know they go around and having active sexual life then they will be too displeased with the question but you sort of think they keep to themselves then they will be offended.

Ba: I think they will be rude, somebody ask me that I would slap her

Communication with sexual partners about safer sex has been found to be a major factor in HIV/AIDS prevention (Marston & King, 2006). There is considerable need for education and skills development if knowledge is to be acted upon without negative feelings. Most of the participants believed

they would find it very difficult to ask their sexual partner about their HIV status.

4.8 Summary of Findings

The pilot study produces some mixed results. There was some evidence of a pattern of representations surrounding HIV that was similar to that reported from previous social representation studies:. That is, a tendency to blame the 'other' for the origin and spread of the virus. The tendency to perceive 'the other' as more at risk of HIV and to report a perception of low risk from the disease was also evident. These are consistent with what has been found in other research adopting the social representation approach (Goodwin et al., 2003; Joffe, 1996). However, this tendency was by no means universal. For example, for some participants, anyone who practises unsafe sex can be infected with the virus. Participants were also less blaming of the risk groups for the spread of HIV/AIDS. These are inconsistent with the assumption of the social representations of HIV/AIDS (Joffe, 1999; Joffe & Bettega, 2003).

The use of focus groups indicated the feasibility of using this methodology for the main study. The study provided a preliminary test of the social representation hypothesis. It also became clear for the need to test the idea that personal views about the acceptability of various safe/unsafe sexual practices may contribute to engagement in those practices. Material generated by the focus groups was appropriate to use in devising the

questionnaires.

Chapter Five

5.0 Study 2: Questionnaire Survey

5.1 Introduction

The previous study was an initial pilot study, conducted in the UK, to provide a preliminary test of the social representations hypothesis. The study also provided some information about the pattern of representations surrounding HIV and about sexual behaviours and attitudes towards sex amongst young people in the U.K. The findings from the study were verified with a survey questionnaire which was also to obtain information about the feasibility of the methodology and ways of improving it. Material generated by the qualitative study was used to devise the questions used for the second preparatory study. This chapter is about a preliminary survey carried out amongst young people in the U.K. The study investigated the statistical relationship between the social representations uncovered in study one, perception of risk and self-reported engagement in safe/unsafe sexual practices; and between personal attitudes towards safe/unsafe sexual practices and actual sexual behaviour. This study also investigated the idea that personal moral views about sexual behaviours may influence actual engagement in those behaviours. The feasibility of the methodology was also assessed.

5.2 Methodology

5.2.1 Recruitment

A similar method for recruiting participants for the qualitative study was used for this quantitative study. However, at this stage every student of the appropriate age was given an information leaflet. They returned a tear-off slip, if they were interested. The interested pupils and their parents/guardians then completed consent forms. Sixty-five male students were randomly selected to participate in the study. This sample size was considered adequate because power analysis indicates that with three predictors, 54 participants will provide adequate power to detect a moderate effect size in relation to a beta coefficient (power = 0.8; alpha = 0.05; moderate effect = squared correlation of 0.13) (Green, 1991).

5.2.2 Measures

One structured questionnaire with four subscales was designed for this study (see Table 2 below). The questionnaire was designed to measure the following:

- Two distancing variables associated with the social representation approach - specifically, blaming out-groups and endorsement of the idea that HIV spread because of the excessive sexual behaviour of people from Africa.
- The participants' appraisals of how much threat HIV posed to them.

- Personal moral views about the acceptability of various safe/unsafe sexual behaviours
- How safe had been the sexual behaviour of those in the sample who were sexually experienced.

Table 2 Questionnaires for Study 2

(i) Psychological distancing variables:
o *Blaming of out-groups* (15 items)
o *Stereotyped beliefs about African sexuality* (9 items)
(ii) Appraisal of the threat from HIV/AIDS:
o *Threat appraisal* (12 items)
(iii) Personal Views:
o *Personal moral views about various safe/unsafe sexual behaviours* (17 items)
(iv) Actual Safe Sex
o *Ever had sex* (1 item)
o *How safe that sex had been (only for those who reported having sex* (10 items)

These questionnaires were devised for the study because it was not possible to find the appropriate measures that adequately addressed the research questions. Moreover, social representations about HIV/AIDS and sexual behaviours, and

beliefs and attitudes about such matters (and the language used to describe them) are specific to the socio-cultural context (Moscovici, 1984; Joffe, 1999). Therefore, rather than attempting to use a standardised questionnaire from previous research, it was considered necessary to generate a questionnaire appropriate to the specific socio-cultural context. Hence, the questions used for this study were based on the findings from Study 1 and a variety of sources (e.g. Boer & Mashamba, 2005: Fezekeas, 1996; Fromme, Katz & Rivet, 1997).

The first two and the fourth of these were measured in order to address the social representation claim that distancing serves to make people feel safe, and they consequently are less cautious in their sexual practice. The scales were based mainly from the data generated from the focus groups of the previous study (Study 1). Some of the questions particularly, those on beliefs and attitudes towards sex and the construct of personal moral values were adapted from the other structured questionnaires (e.g. Boer & Mashamba, 2005: Fezekeas, 1996; Fromme, Katz & Rivet, 1997). The third was measured to explore the contribution of personal moral values to sexual behaviour (an issue that tends to have been neglected by both traditional cognitive models, such as the theory of planned behaviour; and by the social representation approach) (See Appendix D for a copy of the questionnaire).

5.2.3 Scoring of Measures

For the *distancing* and *threat appraisal* variables (first two measures), the participants were presented with a question and a list of possible answers to that question. They then marked all the answers that applied to them/ they agreed with. Examples of the questions are: 'Who would you blame for the spread of HIV/AIDS in this country?' 'What kinds of people are more likely to have HIV/AIDS in the U.K.?' The answers provided were summed to give a score for each subscale and to suggest the level of agreement. An answer was scored with a 1 (one) because the questions were generally used to measure beliefs, knowledge and understanding. These were factual questions that assessed knowledge about HIV/AIDS and questions that assessed their general and personal sense of threat.

Forced-choice question format was used to measure attitudes towards sex and sexual practices (the third and fourth measures). Each item on the questionnaire consisted of a forced-choice statement to which the participant responded 'generally good' or 'generally bad' (or on some items, 'yes' or 'no'). Again, answers were scored with a 1 for the 'generally good' and 'yes' responses, and a 0 for the 'generally bad' and 'no' responses because the questions were generally used to measure knowledge and understanding of safe and unsafe sexual behaviours and attitudes. Examples of the questions are 'What do you think about a girl who carries condoms around with her just in case she wants to

have sex?' The answers the participants chose from were 'generally good' or 'generally bad'. 'Have you ever had sex with someone other than a steady girlfriend/boyfriend?' The answers the participants choice from were 'yes' or 'no'. The scores were summed to give a score for each subscale. Higher scores were associated with higher exhibition of the belief, attitude or behaviour being measured. Higher scores on the variable (*personal moral views*) represented personal views in favour of safe sexual practices. Higher scores on the *safe sex* variable represented safer sexual practices (see Appendix D for a copy of the scoring guide.).

5.2.4 Justification for use of Forced Choice Mark-All-That-Apply Question Formats

Young people are easily bored and put-off when partaking in research. Therefore, two question formats: forced choice and mark-all-that-apply question formats were used as a way to reduce response fatigue, boredom and respondent burden (Rasinski et al., 1994; Smyth et al., 2005). Forced-choice scales were also used to overcome acquiescent response bias which has a distorting influence in the measurement of attitudes (Toner, 1987). The mark-all-that-apply question format is a logical alternative where respondents indicate from list of items which apply to them. Research has found the two question formats provide similar results (e.g. Feindt et al., 1997; Rasinski et al.,

1994; Smyth et al., 2005).

5.2.5 Procedure for Data Collection

The questionnaire surveys took place on the school's premises. Questionnaires were distributed as pupils sat at their desk in their classroom. The participants were asked not to write their names on any part of the questionnaires. Each questionnaire had a unique code on it. Participants were asked to take a note of their unique codes and to contact the researcher or a named teacher of the school within 24 hours with their code if they wish their questionnaires to be destroyed. They were informed that their participation was voluntary; that they could choose not to answer any question that made them uncomfortable; and that they could withdraw from the study at anytime. They were asked to complete the questionnaires honestly and without any discussion with fellow pupils. They were also informed that their answers were confidential and that there was no possibility of their answers being traced back to them. Participants first completed a short demographic questionnaire ascertaining age, sex, class/form, religion and whether or not they know somebody who is HIV positive. Then they completed the main questionnaire (see appendix E). However, out of the 65 participants who were selected from those interested to participate in the study, only 39 completed the questionnaires. The remainder returned the uncompleted questionnaires because they saw the questions as "intrusive".

5.2.6 Data Protection

Completed questionnaires were kept in a locked filing cabinet when not in use. No record was kept of the names of the participants other than their signature on the consent forms. The only record of their real names was on the signed consent form. The consent form did not contain the code, and so there was no way of connecting the consent forms to completed questionnaires.

5.3 Data Analysis

Data were analysed using SPSS 15.0 for Windows (SPSS Inc., 2007). Kendall's tau (τ), a non-parametric correlation were used to test for the relationships between distancing variables (out-groups) and threat appraisals, personal views about sexual behaviours and actual safe sex. Non-parametric correlations were used because the variables were not normally distributed. Also Kendall's tau was used rather than Spearman's product moment coefficient correlation because of the small data set with a large number of tied ranks (Field, 2005a).

5.4.0 Results

5.4.1 Participant Characteristics

Only 39 completed surveys were returned. The remaining 26 were returned uncompleted because the students reported that the questions were “intrusive”. Those who completed the surveys were between 15 and 17 years of age with a mean age of 16 years (SD = 0.98). Christians constitute the majority (27%), followed by Sikhs (24%), with Hindus being the minority (5%). The fathers of 63% were professionals, 8% were self employed and the remainder did other jobs. Fifty percent of mothers were professionals, 8% self-employed and the remainder did other jobs. Asian British were in the majority, constituting (44.7%); followed by White British, (39.5%) and then Indian (10.5%). The least represented group were Black British who made up 3%. The remaining 3% were of mixed race. Only 2 of the participants knew someone with HIV. Twenty seven percent (N = 9) of them reported ever having sex (at least once). One person did not provide an answer to that question.

5.4.2 Descriptive Data

Table 5 shows the range, mean, mode and standard deviation of the subscales used for the study. Higher scores on *threat appraisal* represented a perception of greater risk; higher scores on d*istancing variables* represented higher blaming of out-groups and a stronger endorsement of the idea that African

hyper-sexuality is to blame for the spread of HIV in Africa. Higher scores on the variable *actual safe sex* represented safer sexual practices. Higher scores on the variable *personal views* represented personal views in favour of safe sexual practices. The distribution of some of the scores (personal moral views of sexual behaviours and African sexuality) were not normally distributed and the internal reliability (Cronbach's alpha) for some of the subscales was below the 0.7 usually considered as the benchmark for adequate internal consistency (Kline, 2000). Consequently non-parametric correlations were used to analyse the data. Kendall's tau was used rather than Spearman's product moment coefficient correlation because of the small data set with a large number of tied ranks (Field, 2005b; Howell, 2006).

Table 3 Descriptive Statistics

Variables	N	Mean	SD	Alpha
African Sexuality	38	4.13	1.95	0.60
Blaming out-groups	38	8.58	3.92	0.77
Actual safe sex	10	2.89	1.90	0.61
Threat appraisal	37	8.65	1.65	0.40
Personal views of	36	9.97	2.35	0.81

sexual behaviours				
Valid N (listwise)	35			

n.a. = not appropriate because score based on only 1 or 2 items

5.4.3 Missing Data

There were some missing data. All demographic information was present apart from one participant who did not provide information about the occupation of both parents and another one who gave no information about his religion. For the main questionnaire, one participant completed less than a third of the questionnaire and so that one was excluded from the analysis. For the remainder of the questions, one person did not answer one question on the threat appraisal scale, another participant also did not provide an answer to the question on actual safe sex and two provided no answer for two different questions about their personal views of sexual behaviours

Although the rate of missing data was very low, because of the sample size and the fact that those with the missing data completed over 95% of the questions, the missing data was treated as *'non-ignorable missingness'* (NIM) (Little & Rubin, 1987). *Non-ignorable missingness* exists when missing values are not randomly distributed across observations, but the probability of missingness cannot be predicted from the variables in the model. Little & Rubin suggested that one approach to non-ignorable missingness is to impute values to replace

the missing ones. Inspection of the data in the study suggested that many of the missing subscale values were due to the absence of just one or two values for the participant on that subscale. This suggested, as a conservative remedy for the missing data, the option of supplying a yes or no (true or false); values of a 1 or a 0 at random for those missing values and then calculating the subscale score as the sum of the responses actually provided by the participant plus these random responses. This would presumably provide a reasonably unbiased estimate where there were only one or two missing values in the subscale, but it would increase the error variance considerably where more values were missing. Random number table was used to aid the imputation of the best probable missing value to replace the missing value.

5.4.4 Social Representation Hypothesis

The hypothesis is that distancing strategies result in reduced appraisal of threat, which in turn results in less safe sexual behaviour. In statistical terms, the hypothesis is that there will be a negative association between the use of distancing strategies and safe sexual behaviour that is mediated by a reduced threat appraisal. A mediatory relationship, in turn, implies a significant negative correlation between distancing strategies and safe sexual behaviour; a significant negative correlation between distancing and threat appraisal; and, typically though not necessarily, a significant positive correlation between

threat appraisal and safe sexual behaviour (Kenny, Kashy & Bolger, 1998).

Table 4: Correlations between Social Representations variables, Threat Appraisals and Sexual Behaviours

	African Sexuality	Threat Appraisal	Personal Views	Actual safe sex
Blaming out-groups	.54***	.00	.02	-.05
African Sexuality		.048	-.09	.06
Threat Appraisal			.12	-.10
Personal Views				.66 *

*p<.05; **p<.01; ***p<.001, a.n. = .10

The results relevant to this mediation hypothesis are contained in Table 6. Because only 10 participants had actually had sex, the correlations involving this variable should be considered as having low reliability. Nevertheless, the data offered little support to the social representation hypothesis. There was no effect to be mediated (i.e. no significant negative correlation between the distancing variables and actual safe sex); there was no significant negative correlation between the supposed causal factor (distancing) and the mediator (threat appraisal); and no significant positive correlation between the mediator (threat appraisal) and the outcome (actual safe sex).

There was a significant correlation between *blame out-groups* and *African*

sexuality, suggesting that these variables may be sensitive to a broader construct of distancing. There was also a significant correlation between *personal moral views* and *actual safe sex*, suggesting that a person's views about the moral and social acceptability of behaviours do influence actual behaviour.

5.5 Discussion and Conclusions

The study attempted to verify the statistical relationship between the social representations of HIV/AIDS and perceptions of risk uncovered in stage one, and self-reported engagement in safe/unsafe sexual practices did not provide particularly encouraging support for the social representation hypothesis. This study provided a preliminary test of the social representation hypothesis and the idea that personal moral attitudes about the sexual practices may be associated with safer sex. *Blaming out-groups* and *threat appraisal* variables achieved poor internal consistency; indicating need to improve their measurement and only small number of the participants (only 10) reported that they had had sex. The relatively small sample size, the low internal validity of some of the measures (particularly the t*hreat appraisal* construct) and low number of participants who had actually had sex probably contributed to these relatively unsatisfactory test results.

Although the predictions of the representations of beliefs about HIV/AIDS and

sexual behaviours could not be verified because of the limited number of sexually active participants, there was a significant positive correlation between the holding of personal views in favour of safer sexual practices and actual safe sex practices. This suggested the value of considering this variable further in the main study.

One of the aims of this pilot study was to obtain information about the feasibility of the methodology planned for the main study and about ways in which it needed to be refined. The relatively low number of participants who had actually had sex indicated the need to consider how larger numbers could be included in the test of the social representation hypothesis. Two steps were taken in the subsequent studies: The upper age limit was extended and efforts made to recruit from university students; and it was decided to include sexual intentions as an outcome variable as well as actual sexual behaviour.

Another issue that needed to be addressed in subsequent studies was the measurement of threat appraisal and the distancing variables, since the internal consistency of these was below an acceptable level. The study highlighted that it may be difficult to obtain measures of some of the distancing variables that have adequate internal consistency. For example, with the *blaming out-groups* variable, one would not necessarily expect a tendency to blame prostitutes to be highly correlated with a tendency to blame immigrants. This indicated the need to measure, in the main study, other distancing variables that may allow

measurement with greater internal consistency. For this reason, it was decided to include a measure of stigmatising attitudes, for which others have devised measures of adequate internal consistency (e.g. Crawford, 1996; Dijker, Kok & Koopman, 1996). The inadequate internal consistency of the *threat appraisal* variable was also a concern, and it was decided that more work on the conceptualisation and measurement of this construct was required. Thus, the measures with not so good internal reliability were reconstructed and adapted for use in the main study.

Chapter Six

6.0 Study Three: Ghana Qualitative Study

6.1 Introduction

The two previous chapters (Studies 1 and 2) describe the initial smaller-scale preliminary test of the social representation hypothesis carried out amongst young people in the U.K. in preparation for the main studies in Ghana. Though the results of the studies were not particularly supportive of the social representations hypothesis, the methodology, the selection process and questionnaire administration procedures were found to be appropriate. The tools that had poor internal consistency were revised to make them more suitable for the main study. This chapter reports the main qualitative study conducted among students in selected secondary schools in Ghana. The study provided an opportunity to investigate whether, in current Ghanaian society, there was evidence of a pattern of representations and attitudes surrounding HIV that was similar to that reported from previous social representation studies (i.e. a tendency to blame the 'other' for the disease, and to report a perception of low risk from the disease) (Joffe, 1999; Campbell et al., 2007; Campbell et al., 2005). The aim of the study was also to obtain information about the language and conceptual frameworks used by young people in Ghana to conceptualise these issues, so that this information could provide the basis

for a culturally-sensitive quantitative measure of these representations and attitudes.

6.3 Ethical Concerns

Approvals for the study were granted by the Ethics Committees for the School of Psychology, University of Birmingham, UK and Ghana Health Service, Accra, Ghana. The Ghana Education Service also gave their authorization for the studies to be carried out in the schools. Copies of the approval letters are contained in Appendix A. An opt-in scheme was employed to recruit participants from the secondary schools. As reported in the first study, asking adolescents to discuss sexual matters in the qualitative study may give rise to some concerns. The main ethical concerns were to protect the identity of the participants; to ensure proper informed consent; to avoid pressurising participants into taking part; and to avoid causing any distress to participants. Therefore, both the schools' authorities and students gave their consents before they participated in the study. Students signed consent forms before they took part in the study. The schools' authorities signed the consent form on behalf of the parents of the secondary school students. Participants' identities were protected by not including real names on any of the recorded data, except the consent forms, which were kept separately. The students were free to withdraw from the study whenever they wished without needing to give explanation. Their welfare took priority over any other considerations. Copies of the

information leaflets, the consent forms and ground rules of the group discussion are contained in Appendix B.

6.4 Methodology

6.4.1 Recruitment of Participants

The participants were recruited through their schools. The recruitment followed the same processes as Study 1. A total of eight secondary schools were purposefully selected from the two extreme ends of the Senior Secondary School Certificate Examination (SSCE) league table published by the West Africa Examinations Council (WAEC) in 2005. The selected schools represented academically superior schools at the top end and academically poor at the bottom end. The academically superior schools comprised two boys' school, one girls' school and one co-educational school. Schools from the bottom end of the league table were two girls' schools, one boys' school and one coeducational school. With the exception of one of the co-educational schools, which was a day school, the remaining seven had both boarders and day students.

The aim for selecting schools at the extreme ends of the league table was to have samples of students who are academically inclined and those who are not

so much interested in academic work, for a balance of opinions. It was expected that by selecting schools at the extreme ends of the academic league table, samples of students who are academically inclined and those who are not so much academically inclined/able would have different levels of knowledge and understanding about HIV/AIDS. Furthermore, as students particularly those in boarding schools come from the different towns and villages across the country, and consequently, the various ethnic and religions groups in Ghana, the students of the selected schools would have different demographic backgrounds and so may be expected to have different opinions, attitudes and behaviours about sexual behaviours and HIV/AIDS. The selected schools could therefore be taken as having fairly representative of students in secondary school in Ghana.

The heads of the selected schools were approached about the willingness of their schools to participate in the study. Each school was supplied with copies of the ethical approval letters, a copy of the authorization letter from the Ghana Education Service (GES) and a covering letter from the researcher for their consideration (Appendix A). Initially, all the eight schools contacted agreed to take part in the study. However, two of the girls' schools, one from each end of the league table, could not find suitable time for the data collection and so were eventually excluded from the study. The selected schools had five classes at each level. The average class size at each level was about 50 students. The participating schools nominated suitable second and third year classes to take

part in the study.

Eighty six second and third year students (aged 15 – 20 years) divided into 14 focus groups were used for the study (See appendix F for the scatter in age of students.). The focus groups consisted of four to eight individuals in each group. As stated earlier, experts (e.g. Lunt & Livingstone, 1996; Maykut & Morehouse, 1994; Morgan, 1988) have suggested that at least two focus groups from a homogenous group are better; one to complement the other's points as well as fill in the gaps in the first discussions. However, greater number of focus groups was used because Ghana was the main area of study. The study also involved many schools to make the sample as representative as possible.

An issue raised by the pilot study was the low number of sexually active participants. A reasonably high number of sexually active participants were required to provide a fair test of the social representation hypothesis. Accordingly, it was decided to increase the top end of the age range (17 years) to include older students in the study.

6.4.2 Participants

The mean age of the participants was 16.9 years with a standard deviation of 0.91. Christians constituted 92% of the sample, Muslims 4% and other religions 3%. The fathers of 52% of the sample were professionals; 21% did skilled jobs;

25% were self employed; 2.0% were deceased and 4.7% of the responses were missing. For the mothers, 53% were self employed, 30% were professionals, 13% did skilled jobs and 4% did other jobs. Only 5% (*n=4*) of the sample reported personal knowledge of someone with HIV/AIDS; and three of them did not answer the question.

6.4.3 Justification for use of Focus Groups

Focus group discussions were again used to generate ideas about the participants' social representations of HIV /AIDS, risks and sexual behaviours, because, it proved to be an effective tool for eliciting the social representations and sexual behaviours, and the language the participants used when talking about these matters. The findings of the preliminary qualitative study (Study 1) suggested that focus group discussion was an effective tool for eliciting the participants' representations of HIV /AIDS, risk perceptions and sexual behaviours and the language used to describe them.

6.4.4 Measure

The same list of questions used in Study 1 was used for the focus groups because they were found to be appropriate and covered all the topics of interest. The questions fell under four main headings: origin and spread of HIV/AIDS, perception of risk, risk groups and sexual practices among young people in

general. Additionally, the participants completed a demographic questionnaire as well as answered one question on whether they personally knew someone who is HIV positive. Appendix C contains the list of questions and demographic questionnaires.

6.4.5 Procedure

The procedure for the focus groups in Ghana followed the same processes as those conducted in the UK. Also in Ghana, the assigned teacher to supervise the groups sat in an adjacent room with the door opened. Participants sat in a circle around a table to discuss the topics. There was self introduction of the participants at the start of the discussions. The researcher explained the aim of the session and then solicited questions from the participants and clarified issues. The participants were informed that any information provided during the discussions would be used solely for the study and that their confidentiality was guaranteed. They were also informed that, any student wishing to leave the group was allowed to do so immediately without needing to give any explanation. Participants then completed the short demographic questionnaire about their age, religion etc to help determine their social environment and the reason for their views about the topics discussed (see appendix C). Consent was sought for the use of tape recorder and note-taking. The participants came up with their own ground rules after which additional rules that were considered relevant for the group discussions were added by the researcher (see appendix

C). They were then asked to come up with fictitious names for the purposes of transcribing the discussion. Sheets of paper and pens were distributed to the participants for them to write down their fictitious names and their thoughts. They were then informed that some questions that had no right or wrong answers would be posed to them; and that they were to write down their thoughts first on the sheets of papers that had been given to them before discussing the answer with the group. The questions were first posed and participants allowed time to jot down their thoughts. After the last question had been asked, the questions were taken one by one for discussion. The first question was repeated and one of the participants was asked to volunteer to read to the group the answer to the question. After the volunteer had read what was written down, the rest of the participants took turns to read what they had written down. Those with similar views read their answers first followed by those with dissenting views. Comments on what had been read were solicited with participants sharing their thoughts at random. They were encouraged to ask questions of each other and to say whatever came to their minds, and not to be restricted in their responses. After everyone had responded to the question, those with more ideas/information were given the chance to add on to what had been said. The participants built on the ideas until the points were exhausted before the second question was posed. The process was repeated until all the questions were addressed. The group discussions in Ghana did not exceed 60 minutes.

At the end of the discussion the sheets of papers that they wrote on were collected from them and used as part of the data. Participants were given 24 hours to notify the researcher if they wished for their contribution not to be transcribed. They were to make reference to their fictitious names to allow identification of their contributions in the transcript if they wished for their contribution not to be used.

Fourteen focus groups of four to eight students took part in the discussions. Two of the focus groups were made up of mixed group of males and females; four of the focus groups had only females and eight groups had only male students. Whereas the two mixed groups had eight students (four males and four females) in each group, the single sex groups had six students in a group; except one group that had four. The sessions were audio-taped and later transcribed.

6.4.6 Anonymity

Participants chose fictitious names to allow identification of their contributions in the transcript. Only these fictitious names were entered in the transcript. The fictitious names were not written on their consent forms and so there was no way of tracking their contributions to the real person. Participants were given 24 hours to notify the researcher if they wished for their contribution not to be transcribed. The consent form, and record sheets, audio recordings and

transcripts were kept in a locked filing cabinet when not in use. Once the study had been written up, the transcripts were destroyed. No real names will be included in any write-up of the research.

6.5 Data Analysis

Since the overarching aim for the study was to generate information about the participants' social representations about HIV/AIDS, threat perceptions and various safe and unsafe sexual practices, data analysis followed the same processes as for Study 1. The six step guide described by Braun and Clarke (2006) were again used to analyse the data. The six steps are: familiarizing with the data, generation of initial codes, searching for themes, reviewing themes, defining and meaning of themes and the production of the report that involved the selection of examples/extracts that demonstrate or capture the essence of the relevant points related to the research question and literature (see Study 1 for details). A concordance rate of 95% was found when a person unconnected with the research coded 30% of the collated coded texts selected at random.

The results are reported according to the main topics discussed. Each of the sections contains quotations that depict the ideas. Gender variations are mentioned when the substance and prevalence between were noticeably different.

6.6 Findings

The results are reported according to the main topics discussed. Each of the sections contains quotations that depict the ideas. Gender variations are mentioned when the substance and prevalence between were noticeably different. A concordance rate of 95% was found when a person unconnected with the research selected at random 30% of the pooled codes. This represents good reliability.

6.6.1 Social Representations of HIV/AIDS

6.6.1.1 Origin of HIV/AIDS

Social representations theory as applied to a health threat issue involves consideration of the origin of the disease. The participants were therefore asked about where and how HIV originated. In terms of location, the four main continents were mentioned – namely, Africa, the Americas, Asia and Europe. Countries in Africa specifically mentioned were Congo, Central Africa Republic, Ivory Coast, South Africa and Zambia. In the Americas, North America, USA, South America and the Caribbean were mentioned. Europe, specifically England, France and Germany were also implicated.

Although many countries were mentioned, the dominant views of where HIV originated was that it started in Africa or America. Whereas many of the males

mentioned America as the origin of HIV, the females mentioned Africa.

As to how the virus came about, the participants mentioned aberrant sexual activity, bestiality, bio-medical experimentation and vaccinations. To those who attributed HIV to the West, most claimed the virus emerged as a result of bestiality or homosexuality. A dog, an ape or monkeys were mostly mentioned.

Excerpt 1.

T: It started from America, where a rich man asked a beautiful lady to have sex with a dog for large sum of money.

B: HIV/AIDS begun in America by homosexuals; it was as a result of homosexuality and lesbianism.

Sh: It started from America, when some people had sex with animals

D: South America when people had sex with their animals

M: it started from homosexual in America; in America the people there like to have sex a lot and when they don't get partners they go in for animal to have sex with and they got infected.

C: HIV originated from Europe, when some people had sexual intercourse with a dog.

Where Africa was mentioned as a source of the virus, it was mainly as a result of westerners' experimentation on the continent that resulted in some people being infected or as a result of vaccination. One person mentioned Ghana, but reported no idea of how the virus spread in the country. A few stated that it started in Africa also through bestiality.

Excerpt 2.

H: It started in Africa when a foreign pharmaceutical company gave oral polio vaccination to the people of former Belgian colonies.

L: In DR Congo (Democratic Republic of Congo), but in fact it was a drug which the Americans brought to Congo to cure a disease, and it turned out to be a virus and it turned into the AIDS virus.

M: in Africa through vaccination.

R: Africa when a man had sex with a monkey.

Y: I heard it was first seen in monkeys which were brought to Ivory Coast.

Asia also featured prominently in the discussions of the girls, and was associated with chickens or some black people were made to having sex with an animal (Excerpt 3). Some of the participants also females stated they thought the virus evolved as a result of bestiality in a foreign country but did not know exactly where it happened. Others did not want to speculate about where and how HIV originated and so stated they had no idea.

Excerpt 3.

E: HIV started in Asia where people especially blacks were made to have sex with chimpanzees.

The responses suggest different theories circulating among Ghanaians about the

origin of HIV, but a very common theme was the idea of foreigners (the 'other') being responsible because of greed, 'mad science' or sexual perversion and 'innocent Africans' being the victims. The association of the origin of HIV to the other who is not part of one's social group is consistent with the assumption of social representation theorists (Joffe, 1999; Joffe & Bettega, 2003).

6.6.1.2 Spread of HIV/AIDS

Again, several ideas emerged in relation to the spread of HIV and why HIV/AIDS is so common in some parts of Africa: The discourses about the spread of HIV across the world were immorality and unprotected sexual intercourse by promiscuous individuals who intentionally or inadvertently spread HIV through travels and migration (see excerpts 4 and 5). Many of the young people charged the other who did not belong to their group as the sources of spread of HIV across the world. The outsider was charged for spreading HIV/AIDS across the world through migration and travels. These outsiders were conceptualized as promiscuous or immoral who through travels and migration and marriages spread the virus intentionally or inadvertently. A few claimed it spread through trade with the West. Others also mentioned sexual promiscuity, polygamy and lack of education about safe sex practices among Africans.

Excerpt 4.

L: It spread due to the vaccination and migration.

Ir: movement of people

T: The woman did not know she had the disease and kept sleeping with other men; and people move from country to country.

D: it was not noted early and so precautions were not taken fast enough.

Excerpt 5.

S: I think it spread across the world through sex because prostitution was highly common then.

Ch: From people who came from other countries to live and work here as sailors.

OB: Foreigners coming into the country may have spread it.

Fi: Many promiscuous individuals infected the people of Africa with the disease.

However, when asked for the reasons for the exponential spread of HIV/AIDS in some African countries, many attributed the high prevalence to promiscuity and prostitution. Many also believe the unwillingness to accept the reality of HIV has led to the high levels of HIV in some countries. These people blamed the spread of HIV/AIDS on poverty, ignorance, misconceptions and myths and unwillingness to use condoms. Others also claimed it spread “because of lack of education” and “the use of shared sharp objects”. Others mentioned promiscuity, intermarriages and the use of contaminated blood and medical devices. Cultural practices including polygamy and unfaithfulness of married men also featured quite prominently in the discourses particularly when Ghana

was mentioned. Although poverty was mentioned by some of them, it was not the main discourse shared by the participants.

Excerpt 6.

D: I think its common through promiscuity, prostitution, because most people there (African countries mentioned) do not have access to education and they see things that attract them but do not have money so they sleep with people so they will have money; these people also move from country to country, they are not stable so the disease spread.

M: Polygamous marriages in Africa made it spread there

Ad: sexual immorality made it spread; people having unprotected sex and not being faithful to their partners

K: I think it's because of our sexual behaviour. There are some people who want to go to bed with everything in skirt; which is a very bad behaviour but I think it got to us in Ghana because some people; those who went outside, some worked and got married, others too got into prostitution and they got infected. These people came home had sex with people and it spread.

Ab: I also think HIV/AIDS begun spreading in Ghana through marriage and improper blood transfusion and use of unsterilized devices

La: intermarriages caused the spread

F: I also think our traditional way of doing thing has contributed to that. For instance, in our rural areas men are allowed to marry more than one wife. Also, a man may have a wife instead of being faithful and keeping to the wife he goes out not knowing the person he goes out with is infected with the disease.

Participants disagreed on the extent to which people spread the disease

intentionally. For some, the virus was spread intentionally because " some people do not want to be the only one infected" or "they did not want to die alone". It was also suggested that some have full knowledge of how the disease is transmitted but choose to ignore it. These ideas were challenged by others who claimed people spread it unintentionally.

Excerpt 7.

> E: I disagree with you that people intentionally have sex to spread it; they may not know they have it and go ahead get married, they do not test to see whether they have it or not but go ahead to marry. It is later when they get the AIDS that they will know they had it before they got married.

Homosexuals and injection drug users appeared to be marginally involved in the young people's social representations of the spread of HIV/AIDS. Even though homosexuals and injection drug users were mentioned as playing a role in the origin of HIV, they were not mentioned in the spread of HIV until prompted. The participants, mostly the females, reported no idea about how homosexuals might contribute to the spread of HIV. A few (males and females) mentioned "they have sex with a lot of people and so spread the disease". One male participant also claimed "they start in the boarding school and become addicted to sex so when they leave school they have sex with any other boy or girl they come across; this leads to the spread of HIV". For the injection drug users, they claimed they spread HIV through rape. A few mentioned sharing of

infected needles, but the views of most (males and females alike) are represented by the following quote:

Excerpt 8.

Ir: When they use the drugs they don't think rationally so they go about raping people and if they have AIDS they spread it.

In summary, the young people drew on four main resources to explain the high levels of HIV on the continent: African tradition and cultural practices; African sexuality (men's virility, female's passivity/powerlessness); promiscuity or wanton sexual behaviours; and (to a lesser extent) ignorance and poverty.

6.6.1.3 Blame Groups

Again, there were mixed responses about those to blame for the spread of HIV. Whereas some blamed government/people in authority and scientists for not doing much to halt the spread of HIV across the world, others blamed doctors, health workers, especially doctors for spreading HIV through the use of contaminated blood and medical devices. Barbers were also blamed because of their use of contaminated sharp objects.

Excerpt 9.

S: The presidents! The government did not educate the people about it and people came from other countries and it spread.

D: the government because they have to create awareness for

people to be able to protect themselves.

CD: I will say the government because if they produce more jobs for women especially they will not go into the sex trade.

Pl: Authourities are to be blamed because they are suppose to educate us about the disease

Ab: I would blame scientists and doctors.

Fi: I will say health officers who reuse infected sharp objects on different patients are to blame, because one may not have it but could go to the hospital to become infected and barbers too can infect you.

Another group that attracted blame were prostitutes and sex workers. People who had sex with prostitutes were also blamed, as were promiscuous people in general.

Excerpt 10.

R: Prostitutes

OB: promiscuous people and prostitutes

JA: homosexuals and prostitutes

K: people who have indiscriminate sex.

F: Promiscuous people, barbers and hairdressers too

A few also blamed those who know they are HIV positive but intentionally spread the disease.

Excerpt 11.

Dd: the person who has the virus because we hear of AIDS, AIDS, AIDS and if you don't protect yourself and you get it, it's your own fault.

Fl: those who know they have it and would not want to die alone and so they intentionally spread it.

A marginal group also blamed foreigners from the neighbouring countries and tourists for the spread of the disease in Ghana.

Excerpt 11.

CD: Foreigners from neighbouring countries.

J: I will blame the tourists and people who have sex with foreigners.

Blame, however, was not confined to groups mentioned above. Others also believed "everybody" or "no-one" is to blame for the spread of HIV in Ghana and give reasons for their statements. Young people generally were also implicated because of promiscuity or unwillingness to use condoms or to accept the reality of HIV/AIDS and their attitudes towards people living with HIV (Excerpts 12, 13 and 14).

Excerpt 12.

BK: The youth are to blame, because they have high tendency to have sex.

M: Even now that we know about HIV some people still have unprotected sex.

D: I think the youth are to blame because we are the up and coming people in the country; we are the ones who go about having sex with just anyone at all; we are the ones going to the hospital; if you go to the hospitals you will see many of them around.

M: I think media, especially those who print the news papers; if

you go to our news stand you see a lot of profane sold over there. And we individuals too; everything the eye sees you get some feelings inside you, so I think the individual with the virus and the media people are to be blamed.

E: we should blame ourselves; normally we take things for granted; we are educated about these things we think these things are not real, they do not exist so we do things our own way; mostly we do not protect ourselves.

Excerpt 13.

Pr: I also think everybody must be blamed because people know about it but day in day out they go out to have unprotected sex and do all sorts of bad thing although they know about HIV yet don't take precautions but do what they want.

D: I can't say any one person is to blamed, we are all to blame because, when someone gets the disease, he or she is shunned and in order for him not to be alone he decides to spread it; he will sleep with a lot of people; I don't know whether it is to make the HIV finish or what. His friends may know about it but instead of advising him they don't; so we are all to blame!

M: I think everybody is to blame; everyone because if I am going to have sex with somebody, I don't let the person know my health status that I have the disease and I just go in without any kind of protection and I think many people are not educated about the disease and they don't bother to find out when they get up they just go in.

Excerpt 14.

D: they say we are all to blame, what about babies who don't know

anything but they give birth to them and they acquire it?

B: I also don't think everybody should be blame because some people forget that HIV could be got from ways other than sex they think if you don't have sex you are ok. But they forget they don't even know that you could get it from pricks from objects and all sorts of things.

S: I don't think everyone is to be blamed as they are saying because some people; they know there is a disease; they get married they share stuff without even checking their status before they get married and give birth without checking. You can never know how faithful your husband or boyfriend is and you have so many of us get cut around here so you should regularly check. Right? You can never know!

Fl: you can never know how faithful your husband or boyfriend is; you can never know.

There was also a tendency for both the female and the male participants to blame men (for unfaithfulness and promiscuity) and for the male participants to blame female teenagers and prostitutes, but, as the quote illustrates, many placed the blame squarely on the youth in general. This blaming of in-groups and groups to which one belongs is not particularly consistent with the claims made by social representation theorists about the universal tendency to blame 'the other' for new diseases (Joffe, 1999; Joffe & Bettega, 2003).

6.6.1.4 Risk Groups

There was some overlap between the groups that got blamed and the groups

that were perceived to be at risk. Young people and prostitutes together with poor people, illiterates and those living in rural areas were viewed as at risk groups. Homosexuals and drug-users were mentioned by only one person.

Excerpt 15.

J: it affects illiterates

N: not only the illiterates and those who have no morals

A: I think it's in line with those living with poverty

J: Poor people and people with no morals and miners.

D: it affects the people in remote villages

Ch: Promiscuous people and people who get cheated on by their spouses and babies are likely to get it.

B: I think people who do drugs like injecting chemicals into the body and people who are living in poor places get it.

Excerpt 16.

M: it affects the youth because they are curious about sex and those in the rural areas

F: it affects the urban child and those who engage in unprotected sex

B: Ghanaian youth who have sex with tourist and foreigners are more likely to get it.

A: anyone is likely to get HIV especially the youth and people between 18 – 30 years because they want to have raw sex (sex without protection).

Cr: the female teenager is likely to HIV in Ghana.

B: Teenagers especially the females who are ignorant about it

Excerpt 17.

OB: it affects everyone including prostitutes and doctors!

KA: I also said everyone is basically at risk but especially people with promiscuous behaviour

BK: everybody because HIV is not only acquired through sex, but through blood transfusion and by sharing thing blades and others.

S: I agree with him that anybody at all can get it because it is not only through sex that you can get it.

Pr: no I don't agree because everybody is aware of the HIV/AIDS now right people know of it so nobody would use a blade lying somewhere and if you are married you would not are not suppose to have sex with anyone so I think its only those who don't take precautions who would get it.

M: those who don't take precautions have the higher probability of getting the infection and anyone who forgets about it!

Pl: everybody is at risk you maybe married but you don't know your partner can has sex with other person and you can get it and infect your partner. Also you could be cut with an infected blade you could be transfused with infected blood so everybody, anybody at all can get it you could be descent people can get it even babies in the womb can get it.

There was also a tendency, amongst both male and female participants, to view females as being at greater risk. However, the reasons for such perception differed among the genders. Whereas the males believed the females were more at risk because they tend to have unprotected sex, were ignorant about their risks and many are promiscuous, the females believed the males put the females at risk by being unfaithful (Excerpts 18 below). Others also believed that females tend to please their boyfriends by having unprotected sex.

Excerpt 18.

V: OK the youth like us are interested in boyfriend girlfriend relationships, for that matter the guy may say if you love me prove to me that you love me and the girl will choose having sex with the guy and if he has the disease he will be infected with the disease

L: when having sex they don't think about HIV, they think they will get pregnant but not AIDS.

A: Yes! They don't think about HIV at all, but they think about pregnancy.

When the participants were asked the question "Do you think some students like yourselves are not as careful about taking precautions because they think that HIV/AIDS is something that happens to other people and not people like themselves?" the responses from all the participants were resoundingly in the affirmative. Various reasons were offered about why young people may not take as much care as they should.

Excerpt 19.

S: they do not care!

A: I don't think AIDS enters a student's mind, when they are doing certain things AIDS does not come in at all.

D: yes, I cannot imagine I will get it so yes.

S: yes they think only adults get it

M: Yes, because they think it is their destiny. They say if it is not my destiny I will not get it but, if that is not so, then no matter what I will get it.

Paul: I think we can pray to our God so we won't get AIDS.

Viv: most students when having sex don't think about HIV they

think about getting pregnant.

Abi: youth like us are interested in boyfriend girlfriend relationship, for that matter, if the guy may say if you love me prove to me that you love me and the girl will choose having sex with the guy and if he has the disease she will be infected with the disease.

When asked about the risks of getting infected if protection was not used, and about what percentage of students were likely to become infected over the next 5 years, there was a gender difference, with the female participants predicting greater risk. Many females rated the risk of infection from unprotected sex at over 50% and predicted very high rates of 5-year incidence (over 50%).

Again, the data were not entirely consistent with the claims of the social representation theorists. Although there was a tendency to see other groups as being at risk, there was also a strong view that young people were also particularly at risk.

6.6.1.5 Threat Appraisals

Although many of the participants generally classified themselves as belonging to the larger risk groups, they were polarized between those who do not feel at risk on one side and the "feel at risk groups" on the other side (Excerpts 20 and 21). Many of those who reported feeling at low risk backed this up by saying

that they were not doing anything to put themselves at risk and that they knew how to protect themselves. Others also claimed they did not "feel at risk because they do not know of anybody with HIV/AIDS". When asked about the percentage of students in their school with HIV, most of the participants stated that very few or none of their school mates could have HIV. They reported percentages ranging from nought to less than one per cent. By contrast, other participants reported that they did feel at risk, though generally this was because of a concern over non-sexual means of transmission rather than because of their sexual behaviour. The fact that many 'innocent' people had contracted the disease was also put forward as a reason not to be complacent.

Excerpt 20.

Jn: yes! because of the high level of education we have received

N: yes because we don't engage in sex, secondly because we don't use an unsterilized object

Je: apart from that, we are aware of the disease and again we don't engage in sex

Fr: as SS students were have heard much about the disease and we know what to do to prevent the disease.

Sel: I think day in and day out everybody is careful; we are being educated so everyone is careful, so I think we are safe.

Excerpt 21.

Ls: no I may not get HIV through sex but others means such as cuts from blades needles and blood transfusion

D: I also think we are not safe because day in and day out we go to the barbering shop and in Ghana here we use blade for barbering

and so you could be infected without knowing it; we go to the barbering shop so we can get it.

P: I also think we are not safe because no we go to the hospital in inject us, go to barbers to cut our hair, in fact we do many things so without knowing we could be infected so we are not safe.

P: No, I don't agree because, so many innocent people have got it and they don't know how they got it. They know about the virus alright but may not know of how they got it because they have not done anything bad to get it.

M: we are not safe at all not at all because we cannot be 100% careful … a doctor injected someone with an infected needle; so if a whole doctor is careless then how much more an individual who does not know much about AIDS.

Consistent with other work using the social representation approach (e.g. Joffe & Bettega, 2003), there was a feeling amongst many participants that they personally were relatively safe because they were not having sex, they knew how to protect themselves and/or they knew few, if any, people with the disease. However, a substantial minority felt at risk from non-sexual modes of transmission; and a few pointed to the fact that many 'innocent' people had been infected as a reason to feel at risk. By contrast, when it came to evaluating the risk of other young people, participants generally felt that people were too complacent and that they faced a considerable risk of infection. This split between the evaluation of personal risk and the evaluation of the risk of others who are otherwise in a very similar situation, could be viewed as an example of the 'optimism bias', whereby people underestimate their own personal risk

relative to that of their equals (Joffe, 1999).

6.7.0 Safe and Unsafe Sexual Behaviours

Social representations framework was also employed to help understand the normative factors and structural impediments that underlie safe and unsafe sexual behaviours including condoms use.

6.7.1 Abstinence

Firstly their views about sexual abstinence were explored. When asked for their views about a boy or girl of their age who had never had sex, the participants became divided in their opinion about the issues. It was apparent from the dialogues that the persons who had not had sex were either ridiculed or esteemed. One faction saw abstinence as "normal", "positive" and "good"; and associated with being religious and "a good upbringing". Being involved in a sexual relationship was also seen as having potential risks and disadvantages (Excerpt 22).

Excerpt 22

JA: First of all I will say even taking a girlfriend and discussing this thing with her is very dangerous because its not very easy; there is the possibility that the boundaries will be broken at any point in time so it is better that you have a clear conscience of who to select as a friends and maybe it should

be just a friend and not a girlfriend.

Dd: Even choosing to have a girlfriend is a burden! It's a burden because you are already worrying your mind with these things and (…) as a boyfriend you have to follow some rules and all that.

Ed: I will add to what he said, it's a burden because the girl would like you to write to her very often, call her, buy birthday gifts and so on so you wouldn't be focused on what you have to do as a student.

Ev: if I can be religious here. If that person is religious; because as you may already know because the bible says that you have to wait until marriage; other religion also says that if you contaminate the body it's a sin against God. Secondly maybe it's because of their plans they may not want to have sex now, because of their schedule in life, they may not be able to look after their babies if they should have sex now. So if they should meet in future and marry then they can have sex.

Mic: we are not mature at this age to go in for a girl and do things that people of the age range 35 and 40 think I think, sharing a gift or giving a gift to someone you really like will bring problems.

By contrast, the other faction considered it bad; claiming it is "old fashion", "not modern", "a sign of immaturity" or a sign of religiosity. The latter group saw advantages in being sexually active as a way "to gain sexual experience before marriage" for a girl and "a feeling of being macho" for the boys.

Excerpt 23

Do: some say experience is the best teacher so you have to do it so that when you marry you will know how to do it. So when they see a girl who has not done that before, they think the person is immature or 'colo' (not modern) or something like that.

M: We are in a boy's school when you go to the classroom and you raise the topic with your mates; you say you did that some will usually tell you "Yeah! You are the man; you are the man". They would not tell you, you are irresponsible, maybe unless you are in a mixed school.

Given these negative ideas associated with virginity, it was not surprising that many felt it was common to claim to have had sex even though one had not.

Excerpt 24

M: More girls say it without having done it. Maybe just to make their friends think they have done it before.

S: Because they are saying it you will definitely say so too, so they will not think you are '*colo'* [not modern] or something like that.

Cl: they don't have sex but say so to avoid being ridiculed.

B: It's general; we all don't have sex but say so just to avoid being called names.

Couples who agree to abstain from sex similarly attracted opposite opinions. Some respected them because they are abiding by their "religious principles" and "are serious in life"; but others were suspicious and negative in their attitude. Girls involved in such a relationship were called names such as "holy Mary", or boring. A boy who refuses to have sex with his girlfriend was

considered a “dull boy”, “virgin boy” ‘chrife’ (too religious), “not a real man”, a gay or suspected to be impotent.

Excerpt 25. [Couple who choose to abstain from sex until marriage]

M: They will look strange in the eyes of some youth who think relationship without sex is not right.

A: they might not really be in love with the person

G: he is not in love with the girlfriend....because boys want to have sex.

6.7.2 Not Abstaining from Sex

Similarly, there were polarized views about couples not abstaining from sex. Some perceived them to be in love and doing nothing wrong, or were to be admired; others reported hostile and negative views.

Excerpt 26.

M: She is a hard core [daring] or in love.

L: some may also say they are in love…

S: I will say they are going by their rules.

M: I think they are legally in love. They love each other very much.

Excerpt 27.

L: They are spoilt brats

A: Some dislike the girl. They mostly would not like to walk with them because people will think you are doing the same.

C: Some too will say she is a fool because she is having sex with her

"age mate" or that she is not supposed to have sex.

Most of the girls associated sex with being in love and so refusal to have sex with the person one claims to love was counter intuitive to many, particularly those who were sexually active. Many of them believed a boy or girl who refuses to have sex with the girl/boyfriend could lose him or her to another who may be willing to have sex.

6.7.3 Multiple Partners and Casual Sex

Casual sex and sex with multiple partners likewise elicited widely differing attitudes but for the great majority, the responses were very negative.

Excerpt 28. [About a boy who had a one night stand]

Bob: he is not reliable.
Fr: he wouldn't be faithful to his wife
Ro: he is careless and lacking values
CD: he has not got strong will power.
NB: he is sex addict
Be: he is desperate and cheap
Ma: he can't control himself
Fii: He is very promiscuous

Excerpt 29. [About a girl who had a one night stand]

Ro: she is a whore
Sa: she has no dignity

Cl: a prostitute

Bo: she is a cheap girl

Ma: a slut

Sa: a harlot

One male participant also reported that for a girl who has a one night stand "Boys see her as extremely beautiful". A few said that the boy who has a one night stand may be admired by some.

Excerpt 30.

AM: They esteem him because they think he's been able to prove himself mature

KA: They are proud of him but don't show it

Both the male and female participants also condemned boys who had sex with a prostitute and girls who had sex in return for gifts or money. As with the one night stand, strong words were used to describe the acts. The shared views of almost all (males and females alike) about a boy who has sex with a prostitute are represented in excerpt 31 below

Excerpt 31

M: he is a prostitute

C: He has emotional problems

S: very daring, unsettled, disturbed

Pu: boys who cannot control yourself

Pr: people looked down upon him

The sympathetic males stated that:

Excerpt 32

Se: it could be the guy is shy, because if you go in for prostitute you have to pay, and also it could be the boys options are low so he pays to go into a prostitute. He may be shy.

Da: maybe his girl is not giving him the chance to do it.

A girl who provides in exchange sex for money or gifts was also generally viewed as a prostitute or promiscuous.

Excerpt 33.

B: a prostitute

C: she does not value her body

Be: she too cheap

Sm: she is not content with what she has

Ma: she is a harlot

A girl who has sex in exchange for gift also attracted sympathy from a few who saw it as an act of desperation on the part of a girl who might be poor or orphaned.

Excerpt 34.

T: because she is poor

C: she may be doing that for financial support

E: they think she is an orphan and need money

D: that means she is selling her body

Again, the unfavourable perceptions and the strong words used to describe casual sex, multiple partnerships and prostitution could be due to the fact that

the participants (particularly the girls) associated sex with love. One has to be in love to have sex otherwise it is considered unacceptable. The female participants were also more likely to believe that males were more tolerant of their peer who has sex with a prostitute compared to a female who has sex in exchange for gifts or money. It may be that social attitudes are more tolerant of males engaging in risky sexual behaviour in some context.

6.7.4 Condom use

When the participants' views about condom use were explored, it was found that, even though the young people did not condemn the use of condoms per se, the negative attitudes associated with sex outside an ongoing loving relationship, had indirect ramifications for condom use. The main barriers to condom use found were the embarrassment associated with its purchase and the perceptions that it reduces the pleasure one gets from sexual intercourse.

6.7.5 Purchasing Condoms

One of the main barriers to condom use reported by the participants, especially the girls, was the embarrassment associated with purchasing condoms. Most of them reported that they would feel judged if they went to buy condoms. A minority who were mostly males reported less difficulty associated with their purchase because they believed pharmacists may think they were sent by an

adult to buy them or because they do not worry about what others think about them.

Excerpt 35 [buying condoms]

Bn: it is very shameful

An: buying condom is shameful

Pi: people will think you are a womanizer

Mk: the fear of not being respected is high if you go to buy condom

Cl: And if you are buying it the person selling it will look at you twice.

Fr: Go to the Pharmacist then.

Cl: The pharmacist will just look at you and you would even feel shy of buying it.

Ch: I think you will feel ashamed

Ro: You know my friend; he's a grown up; he told me that, one day he went to buy condom, and the man, instead of giving it to him, he started advising him; so, some feel bad, some too feel cool about it (*laughter*)

Be: you will feel bad it is not funny

Bo: Some people are used to it so it; alright? Some people, too it will be their first time so; you will be worried about the people around you.

Sa: I think people should not think that when you buy condoms then you are spoilt brat because sometime you cannot do anything about it and you will be 'hot' (desperate).

[If condoms are kept at the hospital away from public eye for them to go and fetch for free]

Excerpt 36

Be: they will go for them!

Ro: <u>Some!</u>

Ma: what will the nurse say? How will the nurse look at you?

Ch: it will not be easy

Sa: it will be like buying them from the pharmacy.

CD: it is difficult in the sense that people will think you are bad or immoral.

A few however, find it easy to buy condoms and gave various reasons for their actions.

Excerpt 37

Sm: some find it easy because those who sell it may think you have been sent to buy it, especially if you are very young or look young; under 18.

Sr: sometime you are friendly with the pharmacist and so it will be easy to but it, but generally it is not easy to buy it.

Kgs: sometimes you want to protect yourself so you would not worry about what others will think

Mi: you won't look or think of what others will think about you because you would put your life first before others.

6.7.6 Carrying Condoms

Most of the participants, irrespective of gender, believed that a young person who carries condoms just in case the need for it arises is promiscuous and "lacks self control".

Excerpt 38. [A girl who carries condoms around with her in case they have sex]

Fl: she can't resist temptation

Ed: she is a prostitute

KA: is one who is promiscuous.

AM: She is regarded as someone who would like to have sex anytime.

NB: Sexually addicted person or prostitute.

BK: Nothing much.

CD: She is hungry for sex

Ma: Always ready

Excerpt 39. [A boy who carries condoms around with her in case they have sex]

R: he is a prostitute

M: he is a player or a prostitute

J: has no aim in life

Sh: he is ready for action

Sa: a spoilt brat

L: he can't control his sexual feelings

A minority however, perceived such persons as "… wise because he or she is trying to avoid HIV/AIDS".

Excerpt 40.

J: a wise person

Ed: he is wise

L: he is very cautious

M: he is protecting himself as stated before

L: he/she is prepared for emergency situation

D: she is ready in case someone comes her way or in case of forced sex she can hand it over to the person

When asked “Under which circumstances should a girl carry condoms?” some mostly females said they should carry condoms only when they know they will be having sex. Some also thought they could carry a condom when going to a party but most of the males were opposed to the idea. The vast majority of the male participants maintained that, under no circumstances, should a girl carry condoms. To the males if need be, it should be the boy’s responsibility to carry the condom; but even that it should be to a specific place and planned well ahead of time (*Excerpt 41 below: Pa: last person*). However, that was also not without contentions.

Excerpt 41.

AM: A girl should carry condoms only when there is a chance of her having sex like she is going to meet her boyfriend.

Ma: when they are going to parties

Bb: it depends on which type of party you are going to; maybe it’s a birthday party maybe

Sa: parties that start at 9 pm till day break *(There were a lot of protests)*

Ma: Any party; you can go with condoms to any party.

Ro: It’s going to be ‘stand-get’ then (an offensive word for a quick sex).

Fii: a girl should not carry condoms at all; not at all; she should not carry condoms.

Pa: I think you must plan to have sex; if you want to have sex, go and buy it before the act. If you are going out to a party, or disco party and you know you will dance and be aroused then you should carry a condom. That is what I mean by you have to plan.

6.7.7 Using Condoms

Although carrying condoms was generally disapproved of, using condoms was not wholly viewed as negative and the failure to use condoms may be perceived by some as irresponsible or unwise.

Excerpt 42 [not using condoms during sex]

Chl: She's reckless, doesn't care about her life
Ab: Many will think of her as a carefree person and irresponsible
Shr: some people will think she doesn't know anything about HIV
Ch: That her life is at risk
OB: Naïve and at risk of AIDS

Both the male and female participants also believed it was generally good for a girl to insist on a condom, even though some mostly the males found it 'annoying' and a few of the girls believed "she is too principled". The opinions were divided when it was a male who insisted on the condom. Even though they believed it was generally good, some believed a boy who insists on condom use does not trust the girlfriend or he is a 'womanizer', 'a payer' and cannot be trusted. Another issue was the element of distrust that condom use brings into a relationship. Most of the females believed that a boy who insists on condom use does not trust the girlfriend or may have some kind of sexually transmitted disease. The boys think he is not faithful to his girl (Excerpts 43, 44 and 45).

Excerpt 43. [A girl who insists on using condom]

Chyl: She's sensible, and cares about her life and realizes the risk

Shr: People will think she knows the implications of not using condoms

Ch: She is conscientious

BK: She wants to play it safe

AM: They actually see her as someone who wants to eat her cake and have it

OB: she is too principled

Fi: Boys would be annoyed with such a girl

Excerpt 44. [A boy who insists on using condom]

AM: As for a boy I'll say; people outside will see the boy as a "greenhorn" because under normal circumstances boys would really, really, like to have a girl who would go in for sex without a condom.

Ch: he is also very sensible, and cares about himself

Shr: he actually wants to protect himself

Ch: He is conscientious

Ja: he is not being a man enough

Excerpt 45.

CD: He's not faithful

Ef: some do not use it because they think their partner is faithful so if you don't use it then one is not faithful or does not trust each other.

Fii: Wants to protect himself just in case

Do: the boy does not trust the girl

Ma: Because if you have a boyfriend and you claim you trust each other; if you trust me then you don't have to ask me to use condom.

Be: I think it brings problems when maybe in the beginning you don't use protection and later you want to start using it... Then the girl will be thinking ah! But this guy at first we were not using condom;

maybe he's got other girls.

Several other difficulties surrounding the use of condoms were raised. There was generally a feeling that, condoms reduce the pleasure one gets from sex; they do not give total protection against HIV/AIDS, and some had personal moral and religious views that were at variance with premarital sex and condom use for that matter.

Excerpt 46.

D: I think some people think using condom will not facilitate the activity

Fii: It's a bother! It does not make it real; it does not make sex real

AM: Some people would like them raw; let's say raw; they don't like to have any hindrance to the pleasure they have.

NB: They don't really but, some are happy with it, other too because of their religious affiliations, they are not in favour of it.

Ya: some don't like using it because they say if you are eating toffee and the wrapper is on it how does it taste like to you?

Bn: But can you eat toffee with the wrapper on?

Li: does not give maximum satisfaction so why use condom

Some also have issues with the quality and efficacy of the condom, but this was contended by some of the participants who believed condoms are safe and can give protection against HIV/AIDS.

Excerpt 47.

Sh: Some think the condom can still burst so they will rather have sex without any protection

De: they think it is not safe because it can burst

Ab: I think it is not good to use condom because condoms are not 100% safe; maybe you will use it and it will get burst.

Cl: it is not 100% safe so why don't they have the sex 'raw' instead of going in for the condom

Ch: The same way teenagers even though, they think they (condoms) are not for the youth, desperate ones will try and see how it is. So then, they also think condoms are 99.9% safe.

Ed: they are the most suitable form of precaution against AIDS

Ja: it is a hindrance but safe against AIDS

Do: some think it is best for those who can't resist sex others see it to be useless

Some of the participants were opposed to condom use and had strong religious, socio-cultural and personal moral views about condom use in general.

Excerpt 48.

Do: to some, it gives them the opportunity to have sex

De: I think condoms make people promiscuous because without condom they will not have sex.

Gr: I also think people use the condom just for fun because they think they can have sex and nothing will happen; they are advertising it so I can also try it. I think it is not good to have sex at all.

Vi: I think it is not good; I don't understand why they keep on advertising it

Ksly: in Ghana I don't think they approve condom use because you would be seen as someone sex has become part and

parcel of, and so not to be trusted (referred to young people).

JA: most of the kids are restricted by their parents but in places like America and the rest, fine, they are not restricted so they can have sex and use condoms.

Mi: sometime they themselves (parents) will be telling you to play it safe, yet when they see condoms on you, if you don't take care, the slaps you will receive hmm!

OB: Condoms are not for the youth.

Chl: many people think condoms are not for children; they are not for the youth; they are for only older people.

Interestingly, whereas the males mostly believed condoms do not make sex pleasurable, the females endorsed the statements that they do not give total protection against AIDS and can also burst. Many of the females also opposed to the use of condoms at all and were the ones who expressed the views above (excerpt. 48).

6.7.8 Sexual History

Asking partners about their sexual history and their HIV status, though it was considered as "sensible" and "careful", was also viewed as improper and intrusive. Most of the females, compared to the males, believed it connotes a "lack of trust in the relationship". They also believed the males would particularly find that offensive. Almost all of the participants believed it takes bravery to ask such question. These statements suggest that most of the participants would prefer to assess their potential sexual partners subjectively

rather than asking them explicitly.

Excerpt 49. [one asks about sexual history and HIV status]

Fl: she or he wants to be sure the partner is not sexually immoral

De: wants to know whether the partners has the disease

Ed: being nosey

Do: it is the best

Ja: being wise

Li: lack of trust in the relationship

AM: but it is not easy to find out.

The report about the participants' beliefs and attitudes towards condoms suggests that the few who had positive attitudes about condoms reported ability to purchase and store and use condoms despite the many difficulties associated with condoms and vice versa. The findings are consistent with what has been reported in meta-analytic reviews (e.g. Abraham et al., 1999; Bryan et al., 2002; Sheeran et al., 1999; Marston & King, 2006) that examined the association between a number of psychosocial variables and condom use that, the key determinants of condom use were buying condoms, having them available and discussing condom use. These three preparatory behaviours were reported to mediate condom use. Faithfulness is another important factor that could influence condoms use among the young people. Therefore safer sexual behaviours may not be completely under an individual's volitional control but may be dependant upon the societal norms and practices and the socio-cultural environment within which one lives.

6.8 Summary of Findings

One of the aims of the study was to investigate whether, in current Ghanaian society, there was evidence of a pattern of representations and attitudes surrounding HIV that was similar to that reported from previous social representation studies (i.e. a tendency to blame the 'other' for the disease, and to report a perception of low risk from the disease). In the discussions of the origins and spread of HIV, and the issues of what groups are at risk and what groups are to blame for the spread, the participants had the tendency to attribute the origin of HIV to the 'other' who is not a member of their society.

They also tended to blame 'the other' for the spread of the disease in the country and the world at large as well as perceived 'the other' as more at risk of HIV and to report a perception of low risk from the disease. This is consistent with what has been found in other research adopting the social representation approach (Joffe, 1996, Goodwin et al., 2004). However, this tendency as found in the first study was not universal. For example, for some participants, young people like themselves were very much to be considered an 'at-risk' group and were to blame for its spread because of their sexual behaviour. Some participants were also less blaming of the 'risk groups for the spread of HIV/AIDS. Some even blamed themselves for the spread of HIV. These people believed that because they distance themselves from those infected with HIV, many who have the virus do not disclose their HIV status to their sexual

partners or wilfully spread the virus. These are inconsistent with the assumption of the social representations of HIV/AIDS (Joffe, 1996; Joffe & Bettega, 2003).

In terms of personal risk, again the findings were similar to those of earlier social representation studies in that most viewed their personal risk as low. For many this was probably due to the fact that they were not sexually active (a finding also reported by Joffe & Bettega, 2003), but their knowledge of how to protect themselves and the fact that they did not know anyone with HIV was also seen as protective. A few however believed they may be at risk because of the other modes of the infection. It was again evident from this study of the need to test the participants' personal views about the acceptability of various safe/unsafe sexual practices that may be associated with engagement in those practices.

The study has provided a preliminary test of the social representation hypothesis among Ghanaian sample in preparation for the main quantitative studies. Focus group used to obtain information about the feasibility of the methodology for the main study was found to be appropriate. These findings from this study were verified with questionnaire survey which is reported in the next chapter. Materials generated by the focus groups were also suitable to use to devise the questionnaires.

Chapter Seven

7.0 Study 4 Questionnaire Survey

7.1 Introduction

The previous study (Study 3) found some evidence of patterns of representations of beliefs about the origin and spread of HIV/AIDS, risk perceptions and sexual behaviours that were similar to that reported in Study 1 and also from previous social representation studies (e.g. Goodwin et al., 2003; Joffe & Bettega, 2003). Accordingly, this study attempted to establish the statistical relationships between the social representations uncovered in Ghana (Study 3), perceptions of risk and self-reported engagement in safe/unsafe sexual practices. Questionnaires were used to verify the findings from the study. This chapter reports the findings of the questionnaire survey conducted among students in selected secondary schools and a university in Ghana.

7.2 Ethical Concerns

As with the previous study, ethical approvals for this study were granted by the Ethics Committees of the School of Psychology, University of Birmingham, UK and Ghana

Health Service, Accra, Ghana. The Ghana Education Service and the Head of Department of Psychology, University of Ghana, also gave their authorizations for the studies to be carried out in the schools/university (see Appendix A). An opt-in scheme was employed to recruit participants from the secondary schools and an opt-out scheme used to recruit participants from the university. Measures taken to ensure consent, confidentiality and participants' welfare were similar to that for Study 3.

7.3 Aims and Hypotheses of Study

The study aimed to build on previous work using the social representation approach to HIV/AIDS to provide a more direct test of the central claim that distancing strategies (as measured by beliefs about the origin of HIV/AIDS, stigmatizing attitude towards people with HIV/AIDS and blaming of out-groups believed to spread HIV/AIDS) lead to lower risk perception and subsequently to higher risk-taking behaviour. This was done by statistically testing whether those who more strongly endorse beliefs about distancing strategies are more likely to show lower perceptions of risk, and whether lower perception of risk is associated with higher engagement in actual or intended unsafe sexual practices, and, more specifically, whether any relationship between distancing and less safe sex is mediated by reduced perceptions of risk.

The specific aims and hypotheses were:

1. To test the central claim of the social representation approach that distancing leads to less safe sexual practices and that, this effect is mediated by a reduced perception of threat.

    - H1: Greater distancing representations will be associated with less safe sexual intentions/behaviour, and this effect will be mediated by reduced perceptions of personal risk (i.e. the social representation hypothesis).
    - H2: Greater distancing representations will be associated with less safe sexual intentions and actual sexual behaviour, and this effect will be mediated by reduced condom self-efficacy beliefs (i.e. the findings of Burkholder et al., 1999).

2. To compare the effects of distancing on sexual behaviour with the effects of constructs from the Theory of Planned Behaviour (TPB) and Health of Belief Model (HBM) that has been shown to be associated with sexual behaviour. No specific hypotheses are involved:

    - The strength of the association between the distancing variables and intended and actual safe sex variables will be compared with the constructs from the HBM and the constructs from the TPB.

3. To investigate the effects of individual moral views on intended and actual sexual behaviours, with the assessment of the views being completed within

the framework of the social construction of those behaviours.

- H3: Individual moral views about the acceptability of various sexual practices will be significantly correlated with sexual intentions/practices.

7.4 Methodology

7.4.1 Measures

One structured questionnaire with 17 subscales was designed for this study (see Table 4 below). As discussed in the previous survey report (Study 2), these questionnaires were devised for this study because it was not possible to find the appropriate measures that adequately addressed the research questions. The ideas for questionnaires and questions were drawn from the focus groups (Study 1 and 3), and study 2 and from a variety of other sources (e.g. Boer & Mashamba, 2005: Crawford, 1996; Dijker et. al., 1996; Fazekas, 1996; Fromme, Katz & Rivet, 1997; Joffe & Bettega, 2003).

Table 5 Questionnaires for Study 4

(i) Psychological distancing variables:
o *Beliefs about origins of HIV* (6 items)
o *Blaming of out-groups* (7 items)
o *Stigmatizing attitude towards people with HIV/AIDS* (30 items)
(ii) Appraisal of the threat from HIV/AIDS:
o *Perceived Vulnerability (items relating to personal and general risk appraisals* (8 items)
o *Emotional threat* (*Worry* - the affective reaction to the threat) (4 items)
o *Perceived Severity of HIV/AIDS (4 items)*
o *False beliefs about the dangers of casual contamination by HIV* (8 items)
(iii) Variables related to the theory of planned behaviour:
o *Negative outcome expectancies associated with condom use* (18 items)
o *Positive outcome expectancies associated with condom use* (4 items)
o *Self-efficacy beliefs about overcoming potential barriers to condom use* (8 items)
o *Subjective norms about condom use* (3 items)
Variables related to but not traditionally part of the theory of planned behaviour:
o *Personal moral views about various safe/unsafe sexual practices* (9 items)
o *Moral views of other young people about various safe/unsafe*

sexual practices (9 items)
(iv) Actual and intended sexual practice
o *Ever had sex* (1 item)
o *Actual safe sexual practice* (only for those who reported having sex) (6 items)
o *Intended safe sex* (16 items)
o *Intended condom use* (8 items)
o *Actual Condom Use Reported likelihood of taking sexual risks* (2 items)

The first, second and the fourth measures were intended to test the social representations claim that distancing behaviours serve to make people feel safe and so they consequently are less cautious in their sexual practice. The items that measured *distancing strategies* (i.e., *origins of HIV, blaming of out-groups* and *stigmatizing attitudes* variables) were based on the findings from the focus groups and the previous studies (Studies 1 and 2) and from the works of Boer and Mashamba (2005), Crawford (1996) and Dijker et al. (1996). The second measures that explored the threats associated with HIV/AIDS were based on the HBM (Rosenstock et al., 1994). The third measures were the variables related to the TPB (Ajzen, 1991) and explored the expectancies associated with condom use, subjective norms, and perceived behavioural control associated with overcoming potential barriers to condom use. The items about personal and other people's norms/views about safe and unsafe sexual practices reflected the ideas from the pilot studies and the focus groups (Studies 1 and

3). The items relating to actual and intended sexual practices and behaviours were also borrowed or adapted from a number of sources (e.g. Boer & Mashamba, 2005; Fazekas, 1996; Fromme, Katz & Rivet, 1997). The ideas and language used for the questions reflect the findings from the focus group participants in Ghana. The TPB and HBM constructs allowed a comparison between any effects associated with them and the social representation hypothesis variables.

In addition to the above measures, participants completed a demographic questionnaire, and answered one question on whether they know someone who is HIV-positive (See Appendix F for a copy of the questionnaire).

7.4.2 Scoring of Measures

Each item on the questionnaire consisted of a forced-choice statement to which the participant responded to suggest agreement or otherwise. For the *distancing* variables, the participants were presented with statements such as 'HIV/AIDS probably began in Africa'; 'I would buy fruit and vegetables from someone, even if I knew they had HIV' and 'Would you partly blame Migrants who have come to Ghana from neighboring countries for the spread of HIV/AIDS in Ghana?'; to which they responded 'true' or 'false' (or on some items, 'yes' or 'no'). The answers were scored with a 0 or a 1 and summed to give a total score for each subscale. Higher scores were

associated with higher exhibition of the belief, attitude or behaviour being measured (see Appendix F for a copy of how questions were scored).

For the attitude towards sexual practice and actual and intended sexual behaviour questions, each item on the questionnaire again consisted of a forced-choice statement to which the participant responded ‘generally good’ or ‘generally bad’ (or on some items, ‘yes’ or ‘no’). Answers were scored with a 1 for the ‘generally good’ and ‘yes’ responses and a 0 for the ‘generally bad’ and ‘no’ responses. Factual question items in the questionnaire that assessed actual and intended sexual behaviours, attitudes and knowledge about HIV/AIDS, general and personal sense of threat to which the participant responded ‘true’ or ‘false’ (or ‘yes’ or ‘no’) were scored with a 1 or a 0 respectively because the questions were generally used to measure knowledge and understanding. The scores were summed to give a score for each subscale.

Higher scores were associated with higher exhibition of the belief, attitude or behaviour being measured, except for condom self efficacy subscale which was originally scored so that a higher score meant less self efficacy. This was later reversed so that higher scores meant greater self efficacy. Higher scores on the variable (*personal moral views*) represented personal views in favour of safe sexual practices. Higher scores on the *safe sex* variable represented safer sexual practices (see Appendix F for a copy of the scoring guide.).

7.4.3 Justification for use of Forced Choice Questionnaires

The findings from the pilot study (Study 2) suggested that forced choice questions format is quite an efficient way of assessing young people's social representations, threat appraisals and sexual behaviour. As observed by Feindt et al. (1997) and Smyth et al. (2005), among those who returned their completed questionnaires, their response rate was very high. Consequently, forced choice questions format was again used for the measures of this study. Furthermore, considering the length of the questionnaires for this study and the estimated period for the completion of the questionnaires, forced choice was again used to ease fatigue, boredom, response burden and probable acquiescence bias.

7.4.4 Recruitment of Participants

With three predictors, power analysis indicates that with three predictors, 61 participants will provide adequate power to detect a moderate effect size in relation to a beta coefficient (power = 0.9; alpha = 0.05; minimum effect size of 0.25) (Cohen, 1988; Howell, 2002). Furthermore, Tabachnik and Fidell (2001, p.659) have suggested that, a sample size of 200 is adequate for small to medium models within

structural equation modelling, but a higher number is required if the variables are not normally distributed or if a greater number of variables are included in the model. However, because it was not possible to pre-judge the normality of distributions or the number of variables in the models that might be investigated, a sample size of 400 secondary school students and 100 university students was planned in order to provide greater flexibility. A total of 500 students were therefore randomly selected to participate in the study. For the more basic correlational/regression analyses and structural equation modelling, a sample size of 500 is more than adequate to detect even a small effect size (Cohen, 1988; Green, 1991; Howell, 2002).

The participants were selected from four of the six schools involved in the Ghana qualitative study (Study 3). The selected secondary schools were the two coeducational schools, one girls' school and one boys' school. The boys' school and one of the coeducational schools were from the top end of the academic spectrum. The remaining two were from the bottom end. These schools were selected for the study because they presented the most interesting mix of students.

Each school nominated one second and one third year class to take part in the study. All students in the selected classes were then given copies of the information leaflets with tear up slips. They returned a tear-off slip if they were interested in taking part. From those who returned the signed slips, one hundred students (fifty from each year group); and with the restriction that an equal number of males and females were randomly selected from each school. Altogether, 400 students, 200 males and 200

females, were selected to participate. They then completed the consent forms before being allowed to participate in the study. The school authorities signed the consent form on behalf of parents.

A reasonably high number of sexually active participants were required to provide a fair test of the social representation hypothesis. Accordingly, a further 100 participants were sought from a university population in the expectation that more of these students would have had sex. They were recruited from among first year psychology students of one of the universities located in the capital city of Ghana. The students were approached at their lecture hall and asked about their willingness to participate in the study after arrangement with their lecturer had been made. They were given the chance to opt-out of the study if they did not want to take part.

7.4.5 Administration of Questionnaires

The questionnaire surveys took place during school hours. The participants sat at their desks to complete the questionnaires. They were told that their answers were confidential; they need not answer any question that made them uncomfortable or did not want to answer; and that they could also withdraw from the study at any time. They were then asked to complete the questionnaires honestly and without any discussion with fellow pupils. They were instructed not to write their names on any

part of the questionnaire but rather to take note of their unique codes printed at the right hand corner of the questionnaire, and to contact the researcher or a named teacher of the school within 24 hours with their code if they wish their questionnaires to be destroyed. The participants were also instructed to envelop their completed questionnaires and to drop it in a box placed in front of the classroom. The researcher was available to clarify questions as they arose. The questionnaires took about 35 minutes to complete.

7.4.6 Participants Characteristics

Four hundred and sixty three students (51% males and 49% females), made up of 391 secondary school students and 72 university students (35 males and 37 females), returned their completed questionnaire. However, 460 participants' data were analysed. Two participants who indicated that they were married and one person who completed just about a third of the questionnaire were excluded from the analyses.

The age range of the participants was from 16 – 26 years with a mean age of 18 years (SD 1.9). Akan tribe constituted 48% of the participants, Ga-Dangme 20%, Ewe 24%, Mole Dagombas 7% and others 2%. Ninety-one percent of the participants were Christians, 8% Muslims and the remainder belonged to other religions. The fathers of 43% of the sample were professionals, 21% business/self employed and 39% did other

jobs. Two percent indicated that their fathers were deceased and the remaining 3% provided no information about their fathers. Mothers of 27% of the sample were professionals, 47% were self employed/business, 4% were housewives, and the remainder did other jobs; 0.9% provided no information about what their mothers did. Thirty-three percent (N = 154) of the participants had ever had sex, at least once, and 11% of them knew someone who was HIV positive.

7.4.7 Data Protection

Data protection measures followed the same procedures as for the previous studies. That is, completed questionnaires were kept in a locked filing cabinet when not in use.

7.5 Data Preparation and Analysis

Data was prepared for analysis using the methods suggested by Tabachnik and Fidell (2001) and analysed using SPSS 16.0 for Windows (SPSS Inc., 2008). There were no clear univariate or multivariate outliers, and so no outlying scores were omitted or adjusted. However, distributions departed significantly from normal on several subscale scores (see appendix F). The scores that deviated from the expected distribution were all negatively skewed, except the scores of the stigma subscale, which was mildly positively skewed. Reverse score transformations were used to transform the skewed data. The scores were reflected, square root taken, and then logs reflected. The transformations improved the distribution sufficiently on some of these,

but transformation was not appropriate for the *actual condom use* variable because this consisted of only two items. The *stigma* scores were positively distributed and so they were transformed by taking the square root of the scores.

Mediation analysis was used to test some of the hypotheses. Traditional mediation analysis, as described by Baron and Kenny (1986), involves three steps. These are illustrated below, with reference to the Social Representation Hypothesis:

- Test whether the *distancing* variables are associated with the *sexual behaviour* variables. This indicates whether there is an effect to be mediated.
- Test whether the *distancing* variables are associated with the hypothesised mediator (i.e. *perceived vulnerability* variable).
- Enter the mediator and the *distancing* variable as predictors in a multiple regression with a *sexual behaviour* variable as the outcome. A significant individual regression coefficient for the mediator would indicate a significant mediating effect (providing information that the *distancing* variable is correlated with the mediator). A significant individual regression coefficient for the *distancing* variable would indicate that the effect of distancing variables on sexual behaviour is only partly mediated by the mediator variable.

The approach taken in this study was to use correlations to determine whether the first two conditions of the traditional mediation analysis were met. If (and only if) both correlations were significant, then the third step was completed.

To confirm the findings of the above mediation analysis, that followed the steps described by Kenny et al. (1998), and to provide a more precise estimate of the size and significance of the mediation effect (i.e. one that addressed combinations of variables rather than single variable), a bootstrap test (Efron & Tibshirani, 1993) available within AMOS (***A****nalysis of* ***Mo****ment* ***S****tructures*, ADC/SPSS Inc., 2008) was conducted.

7.6.0 Results

7.6.1 Descriptive Statistics

Table 6 shows the mean, standard deviation, range and Cronbach's alpha for each of the subscales used for the study. Higher scores were associated with higher exhibition of the *belief about the origin of HIV, blaming and stigmatizing attitudes* towards people with HIV; higher *subjective norms, moral views* of condom use and *intended/actual sexual safer sexual* practices. Lower scores on the general *threat appraisals* variables (*perceived vulnerability, emotional threat and contamination fears*) represent lower personal sense of HIV/AIDS threat. The Cronbach's alpha for some of the subscales was below the 0.7 value usually considered as the benchmark for adequate internal consistency (Kline, 2000).

Table 6: Descriptive Statistics

No.	Scales & Subscales	N	Mean	Std. Deviation	Alpha	Number missing in analysis	
						No.	Percent
1.	**Distancing variables:**						
	Origins of HIV	419	3.32	1.41	0.41	41	8.9
	Blaming Out-Groups	440	3.04	1.63	0.73	9	1.9
	Stigma	452	12.73	5.20	0.82	20	4.3
2.	**Threat appraisal variables:**						
	Perceived Vulnerability	440	5.63	1.89	0.63	20	4.3
	Emotional Threat (Worry)	445	2.75	0.97	0.35	15	3.3
	Perceived Severity	445	2.91	1.37	0.43	15	3.3
	False Beliefs	445	1.43	1.50	0.58	15	3.3
3.	**TPB variables:**						
	Negative Outcome Expectation	418	8.28	4.01	0.80	42	9.1
	Positive Outcome Expectation	456	1.97	1.13	0.51	4	0.9
	Condom Self Efficacy	455	5.59	2.36	0.81	5	1.1
	Subjective Norms	399	1.77	1.17	0.73	61	13.3
4	**Moral values variables:**						
	Personal Moral View	442	7.29	1.54	0.54	18	3.9

	Moral View of Others	440	5.41	2.14	0.61	20	4.3
5.	***Sexual behaviour variables:**						
	Actual Safe Sex	142	2.00	1.16	0.65	13	7.8
	Intended Safe Sex	445	12.58	2.81	0.73	15	3.3
	Actual Condom Use	142	1.16	0.77	0.46	13	7.8
	Intended Condom Use	445	6.42	1.75	0. 68	15	3.3

* The two additional sub-scores– *intended condom use* and *actual condom use* were derived from the '*actual safe sex'* and '*intended safe sex*' variables because the TPB variables related only to condom use.

7.6.2 Missing Data

Some data were missing. Table 7 also provides information about missing data. All demographic information was present apart from 14 participants who did not provide information about the occupation of either parent: 4 who gave no information about their mother's occupation and 12 who gave no information about their father's occupation. For the main questionnaire, the total number of possible responses was 460 (participants) x 176 (items) = 80,960. Of these, 1,130 values (1.4%) were missing. The item with the highest number of missing responses was question 172 ("The drugs used to combat HIV have many unpleasant side effects"), with 41 participants failing to answer this. The highest number of items missed by a participant was 29. The mean number of missing values per item was 2.5, with a median of 2.0 and a mode of 0.

Although the rate of missing data was relatively low, because of the way they were

distributed, the rate of missing values for the sub-scale scores from the questionnaire was higher. Of the sub-scale scores, the total number of possible sub-scale totals was 460 (participants) x 17 (sub-scale scores) = 7,820 (5.6%). The highest rate of missing values was for the ‘subjective norm for condom use’ sub-scale of which 13.3% of the participants failed to answer all of the items relating to this sub-scale total; the next highest was the 'negative outcomes of condom use' variable, with 9.1%, and origins of HIV' variable (8.9%); and the fourth and highest were the ’actual safe sex’ and actual condom use variables (7.8%). Although according to Cohen and Cohen (1983) 5% - 10% missing data is not a large amount, only 38% (175) of the participants completed all items and this presents more of a problem.

The decisions about what to do about missing data was based on Little and Rubin’s (1987) diagnosis of missingness. That is, the decisions depended on whether the missing values can be classed as 'missing completely at random' (MCAR), 'missing at random' (MAR) or 'non-ignorable missingness' (NIM) (Little, 1997; Little & Rubin 1987, 1989; Rubin, 1987). In the case of MCAR, the missingness is genuinely random: What values are missing cannot be predicted from other variables, measured or not-measured. In the case of MAR, the missingness can be predicted from one of the other measured variables, but, within each level of that other measured variable, the missingness is genuinely random. For example, in a survey there are questions about age and income; older people may be more likely not to reveal their income. Since the missingness of the data can be predicted by age, the missing values are not MCAR - but, because they can be predicted by a measured variable, they can be

considered MAR provided that, within each age band, the missing values are randomly distributed. If the missing values can be considered MCAR or MAR, then a range of methods for imputing the missing data are available, including older out-of-favour approaches (e.g. substituting a score based on a regression equation) and newer approaches (e.g. 'expected maximization' and 'multiple imputation'). Missing values that follow a non-random pattern that are unrelated to the other measured variables or are related to both measured and unmeasured variables, are considered to be a case of 'non-ignorable missingness'. These are more difficult to deal with. The standard methods mentioned previously are not applicable because they rest on the premise that the data is missing at random in some sense. One possibility is to develop a model that predicts missingness on the basis of other research (i.e. on the basis of variables not measured in the study in question) and to use that model to impute values. This approach is difficult if there is no other evidence on which to base a model. The other traditional approaches to missing data are pairwise or listwise deletion. In listwise deletion, the analysis proceeds using only those participants who have provided a full data set. In pairwise deletion, participants are omitted if they have missing data on one of the variables included in the particular analysis being run. Both pairwise and listwise deletions have a general problem in that, by reducing sample size, they reduce the power of the analysis. Pairwise deletion has the additional general problem that different analyses use different cases and will have different sample sizes. However, both approaches may also produce biased findings if the data falls into the category of NIM. This is because the analysis is based on the exclusion of a particular sub-group within the sample who are more likely not to have provided data. This is particularly

likely to be a problem if the fact that the data is missing is related to the value that the data would have taken if it had been provided. In the current study, as noted earlier, only 38% of the participants produced full sets of subscale scores. Listwise deletion would result in conclusions being drawn after the exclusion of a substantial subsample of participants who may differ in some systematic way from the included sample (e.g. they may have been less likely to have had sex). Pairwise deletion would result in different conclusions being based on different samples that may have differed in some important way.

What category the missing data falls into (MCAR, MAR or NIM) is, in practice, often very difficult to determine (Kline, 1998; Schafer, & Graham, 2002: Tsikriktsis, 2005; Wothke 2000). Although these three important terms do have specific statistical definitions, their practical meaning is often quite vague. There is no clear way of determining if one's suppositions are correct. For example, in the present study, those who had missing data on the 'negative outcomes of condom use' variable were more likely to report not having had sex. The omissions were significantly higher amongst those who reported they had never had sex compared to those who reported they had (20% vs. 6%). Those with no experience of condom use may have felt unable to answer questions about negative aspects of their use. Items relating to negative outcome expectancies about condom use were amongst those most often left unanswered, and, understandably, these were more often missed out by those without prior sexual experience. These unanswered data could therefore not be treated as ‘missing at random’ (Little & Rubin 1987). Likewise, responses to questions about the

origins of HIV may have been omitted on the grounds that the person considered that they simply did not know, and much of the increased rate of omissions for the 'emotional threat' variable was due to the high number of participants who declined to respond to an item that asked them to state whether the drugs used to combat HIV have many unpleasant side effects. These might initially suggest MAR, in that the missing data was predictable from another measured variable. However, it is very difficult to determine whether the data on the 'negative outcomes of condom use' variable was distributed at random within the *had-sex* and the *not-had-sex* groups.

The safest assumption in the present study was to treat the data as 'non-ignorable missingness', since this does not make unsupportable assumptions about the randomness of the missing values. Indeed, as discussed above, there are some grounds for supposing that the missingness was related at least to some degree, to an unmeasured factor (e.g. knowledge about the relevant issues or willingness to speculate on issues about which one does not have sufficient knowledge). Hence, the decision was to treat the data as 'non-ignorable missingness' (NIM) (Little & Rubin 1987).

As noted earlier, if the missing values are treated as NIM, options for dealing with the problem are limited. Establishing a predictive model for the missing data on the basis of other research was not a realistic option because of the lack of available research on these issues, and the lack of information about likely factors (i.e. knowledge about HIV, willingness to speculate when not knowing an answer). Listwise or pairwise

deletion would be the traditional option, but they are potentially biased when the missing data is NIM. Closer inspection of the data in the present study suggested that many of the missing subscale values were due to the absence of just one or two values for the participant on that subscale. This suggested, as a conservative remedy for the missing data, the option of supplying the case mean of the probable score for the missing item (a variant of a mean imputation method); rather than a yes or no (true or false) at random for the missing values; and then calculating the subscale score as the sum of the responses actually provided by the participant plus these random responses.

This would presumably provide a reasonably unbiased estimate where there were only one or two missing values in the subscale, but it would increase the error variance considerably where more values were missing. As a compromise, therefore, it was decided to substitute a score of 0.5 (which was the case mean of the probable score for the missing item) for those subscale scores where the participant had given a response to at least two thirds of the items making up the subscale, but, where more than a third of the items were missing the missing data was considered large, and then treated as missing (Cohen & Cohen, 1983), to treat these as missing.

This had the effect of reducing the amount of missing subscale scores considerably - from 341 to 25. Most of these were on the negative outcome expectancies, subjective norms and origins of HIV. The analysis is based on the set of data with these values imputed at random where the participant has responded to at least two thirds of the subscale items. Pairwise deletion was used to account for that data still treated as

missing (i.e. where the participant had failed to supply at least two thirds of the responses). The results reported below are based on these imputed data. Pairwise deletion was used to account for that data still treated as missing. To check on the validity of this procedure, the results of analyses with this data set were compared with those based on listwise deletion (i.e. using only those participants who provided full data sets). There were no major differences.

7.6.3.1 Social Representation Hypothesis (Aim 1, Hypothesis 1)

The social representation hypothesis was tested using a mediation analysis (mentioned above). Table 7 provides the correlations relevant to the first step. That is, the correlations between the *distancing* variables (beliefs about the *origin of HIV/AIDS*, *stigmatizing* attitude towards people with HIV/AIDS and *blaming of out-groups*) and *sexual behaviour* variables. There was some evidence of an association in the direction predicted by the social representation hypothesis: higher *stigma* scores were associated with greater reported likelihood of taking sexual risks and reduced *intention to practise safe sex*. However, higher *blaming of out-group* scores was associated with greater intention to practise safe sex and a reported likelihood of safety in actual sexual practices. Belief about the *origin of HIV/AIDS* was not significantly associated with higher levels of safety in actual and intended safe sexual behaviours as predicted by social representations hypothesis.

Table 7 Correlations between *distancing* and *sexual behaviour* variables

	Origins of HIV	Blaming out-groups	Stigma
Actual safe sex	.09	.15*	-.31***
Intended safe sex	-.06	.23***	-.25***

Note *p<.05. **p<.01. ***p<.001. n.s. = .10

Table 8 shows the correlations between the *distancing* variables and the *perceived vulnerability* variables (step 2). Consistent with the social representation hypothesis: higher distancing (i.e. *origin of HIV/AIDS* and *stigma*) was associated with perceptions of lower *vulnerability*. However, *blaming* though significantly associated with perceived vulnerability was again not in the direction predicted by social representations.

Table 8: Correlations between *distancing* and *threat appraisal* variables

	Origins of HIV	Blaming foreign influence	Stigma
Perceived Vulnerability	-.10*	.19***	-.31***

Note *p<.05. **p<.01. ***p<.001. n.s. = .10

Because stigma showed the expected correlations in the first two steps, the last step of the mediation analysis was completed for this variable. Separate analyses were conducted for the two sexual behaviour variables. When both stigma and perceived vulnerability were entered as predictors of intended safe sex, both made a significant

unique contribution to the outcome (beta coefficient for stigma = -.20, p<.001; beta coefficient for perceived vulnerability = .21, p<.001). This result indicates that there was a significant mediation effect, but that the mediation was only partial (i.e. there remained an association between *stigma* and *intended safe sex* that was not mediated by *perceived vulnerability*). For the outcome of *actual safe sex*, there was no mediation effect (beta coefficient for stigma = -.29, p<.001; beta coefficient for *perceived vulnerability* = .04, p=.682).

The fact that there was a mediating role for perceived vulnerability in respect of intended, (though not for actual safe sex), supports the hypothesis that *perceived vulnerability* mediates the relationship between stigma and *safe sex intention*.

7.6.3.2 Confirmation of the Mediation Analysis and the Justification for Use of Bootstrap and Structural Equation Modelling to Confirm the Mediation

Though the regression model described above has been commonly used for mediational analysis, they are subject to measurement errors and are restricted to the use of measured variables (Cheung & Lau, 2008; MacKinnon, Lockwood, Hoffmann, West, & Sheets, 2002; MacKinnon, Lockwood, & Williams, 2004, MacKinnon, Warsi, & Dwyer, 1995; Preacher & Hayes, 2004). Kenny et al. (1998) found that if the variables are measured with errors, then the significance of the mediation effect is likely to be underestimated because the effect of the independent variable on the dependent variable without the mediator is likely to be underestimated, and the direct

effect of the independent variable on the dependent variable is likely to be overestimated. Consequently, Kenny (2008), Preacher and Hayes (2004, 2008) and Shrout and Bolger (2002) have suggest using the indirect effects test to provide a more precise estimate of the size and significance of the mediation effect.

Many studies have used the Sobel test (Sobel, 1982, 1986) also known as the *product-of-coefficients* approach, to examine the significance of mediation effect. However, the Sobel test is very conservative and works well only in large samples (N>200) (Cheung & Lau, 2008; Preacher and Hayes (2004, 2008). Preacher and Hayes (2008) and Shrout and Bolger (2002) have asserted that in finite samples, the total indirect effect is rarely normal.There is also evidence that the distribution of mediation effect is not normal (Bollen & Stine, 1990; MacKinnon & Dwyer, 1993; Stone & Sobel, 1990). MacKinnon et al. (2004) and Cheung and Lau (2008) reported that the distribution of the mediation effect is normal only when the path between the predictor variable and the mediator and that between the mediator and the outcome variable (direct paths) are equal to zero. Hence, the utilization of a significance test, such as the Sobel test, which assumes a normal distribution when examining the mediation effect, may not be appropriate (MacKinnon et al.).

To address this problem, other researchers have used latent variables with multiple indicators/structural equation model (SEM) to explore mediation effects and to deal with this measurement error problem. Cheung and Lau (2008) showed that SEM is very effective in controlling for measurement errors when estimating both the direct

and indirect effects and provides unbiased estimates of mediation effects. However, most SEM software packages (such as EQS and LISREL) are based on the Sobel for examining the significance of indirect effect (Cheung & Lau, 2008). Since distribution of the mediation effect is rarely normal, utilizing the approaches that rely on the Sobel that assume normal distribution may not be appropriate for examining the significance of the mediation effect. Cheung and Lau (2008) further showed that the bootstrap methods produce more balanced confidence intervals (the bias-corrected bootstrap confidence intervals perform best in testing for mediation effect). Many researchers and theorists (e.g. Kenny 2008; MacKinnon et al., 1995; MacKinnon et al., 2002, 2004; Preacher & Hayes, 2004, 2008; Preacher, Rucker, & Hayes, 2007; Shrout & Bolger, 2002) support the use of bootstrap method to determine mediation effect. These researchers have suggested that bootstrap is a more efficient method for testing indirect effects; and recommend it as alternative to the Sobel test because it imposes no distributional assumptions and it is very efficient especially where there is access to the raw data. Others (e.g. Bollen & Stine, 1990; Briggs, 2006; Lockwood & MacKinnon, 1998; Williams & MacKinnon, 2008) have also demonstrated that bootstrap offers a better way of dealing with the power problem introduced by asymmetries and other forms of non-normality in the sampling distribution. Preacher and Hayes (2004, 2008) recommended the use of the Sobel test only if there is no access to raw data and where the data is very large (N>500).

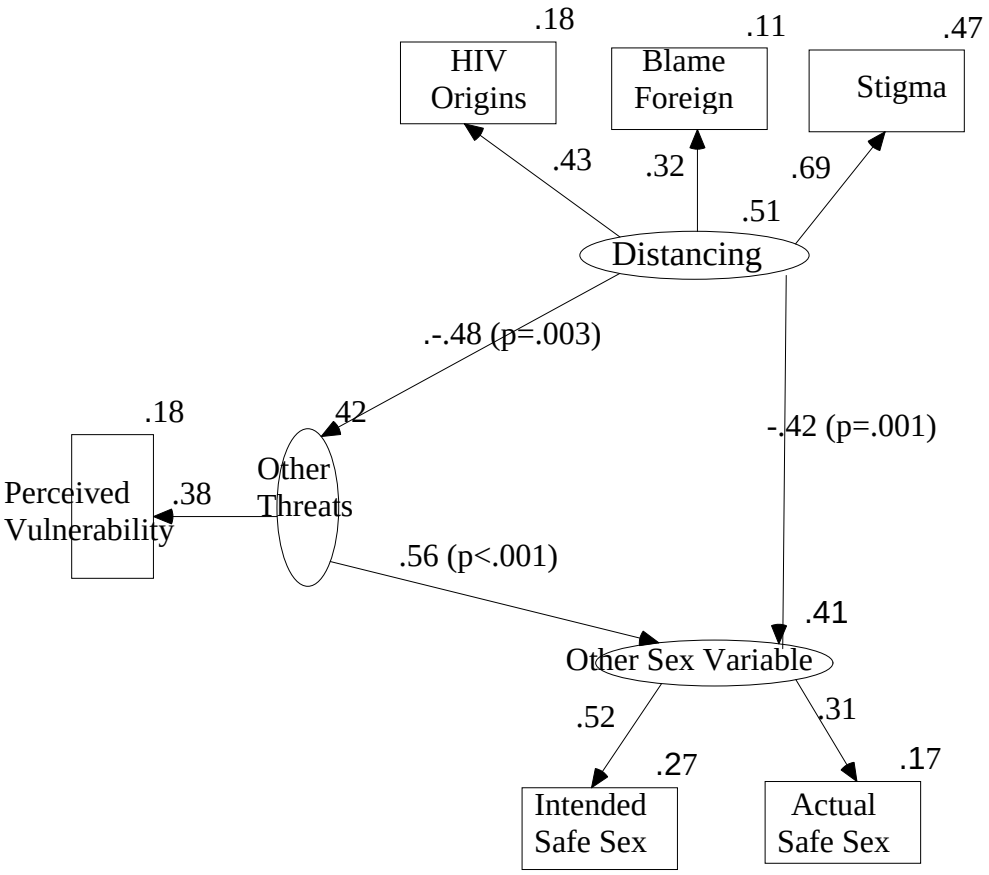
Based on the above recommendations, this study used the bootstrap test (Efron & Tibshirani, 1993) available within AMOS (**A**nalysis of **Mo**ment **S**tructures,

ADC/SPSS Inc., 2008) to confirm findings of mediation effect that, higher distancing attitudes were associated with reduced safety in sexual behaviour through the mediation of reduced perceptions of vulnerability. Bootstrapping is a type of Monte Carlo method that involves ‘‘resampling’’ the data many times with replacement to generate an empirical estimation of the entire sampling distribution of a statistic (Efron, 1987; Efron & Tibshirani, 1993; Mooney & Duval, 1993). It is particularly useful when the statistic does not have known distribution (such as sample median) or when distribution assumptions have been violated; and can be effectively utilized with small sample size (N = 20 - 80) (Kaufman, MacLehose & Kaufman, 2004; Shrout & Bolger, 2002). For this study the number of participants who reported sexual activity is 154, which is less that the basic requirement for the Sobel test.

The estimation procedure for the mediation analysis employed the Maximum Likelihood and Bollen-Stine bootstrapping to test the significance of the indirect effect (goodness of fit of the hypothesized model). Bootstrap parameter estimates are reported for each parameter estimate in the model: standardized regression (path) coefficients, variances and total and indirect effects. How well the model fit the data was further assessed using a chi-square goodness of fit test as well as the comparative fit index (CFI) and the root-mean-square error of approximation (RMSEA). The plausibility of the hypothesized relative model fit was further examined using the CFI and RMSEA; the most commonly reported indices. CFI scores greater than .90 and a RMSEA value of .06 or less indicate acceptable models fit (Hu & Bentler, 1999).

The hypothesized structural model path is presented in Figure 1. The rectangles represent the observed/measured variables, and the ellipse represents the latent/unobserved variable. The figures displayed next to the rectangles and the ellipses are the estimated variances (percentage variability explained by the sample). The single-headed arrows between the variables represent the structural path/regression coefficients. The figures displayed next to them represent the standardized regression weights.

Figure 1: Structural equation model of relationships between distancing, perceived vulnerability and sexual intentions and behaviours



Based on 2000 bootstrap samples from AMOS (resampled from the original dataset) were created to asses the overall model fit. The results suggested the model is better fit to the data (Bollen-Stine bootstrap – p=.134 (a non-significant bootstrap value indicates non significant differences between estimated and actual covariance matrices, indicating a good model fit). The 95% *Bias-corrected confidence interval* (*BC*) was 0.123, 0.53. The adequacy of overall model fit assessed using the two supplemental fit indices of the hypothesized model were: RMSEA = .053 and the CFI

= 0.92 (indicating the model that fits the data well). The results suggest no discrepancy between the results of the bootstrap analysis and the normal distribution theory-based analyses (CFI and RMSEA). In addition, the path coefficients between the factors/variables (displayed as standardized regression coefficients) were statistically significant (p <. 01) in all of the measured variables.

As found in the previous mediation analysis result, perceived vulnerability did play a role in mediating actual and intended safe sex among students in Ghana. Overall, *the model* explained 27% of the variance in *intended safe sex* scores and 17% in *Actual safe sex* scores. These findings support the model's hypothesis that perceived vulnerability partially mediates the relationship between distancing and intended safe sex; and distancing and actual safe sex. The findings are also consistent with the Kenny et al.'s partial mediation result reported above. However, with that approach, the mediation effect of perceived vulnerability on the *actual safe sex* variable was not supported. The reason for the discrepancy could be as a result of measurement error of the previous analysis (Kenny et al., 1998). *Stigma* variable was the most influential contributor. The variance explained by actual safe sex on intended safe sex was 29% (not shown on diagram).

7.6.4 Further Analyses relating to Stigma

Since the findings related to stigma were significant, further analyses were conducted focusing on this variable. One-way ANOVA was used to examine the relationship of *stigma* to the categorical demographic variables, and the correlations of *stigma* with all the other variables were calculated. Because of the large number of correlations carried out, the alpha level was set at 0.01, and a Bonferroni correction was used for the post-hoc ANOVA tests. Of the demographic variables, females tended to hold less *stigmatizing* attitudes than males ($F(1, 450) = 6.30$, $p = .012$) and Christians held less *stigmatizing* beliefs than Muslims ($F(1, 443) = 7.23$, $p = .007$), though the latter result should be treated with caution because of the relatively small number of Muslim participants (N = 419 vs. 37). *Stigma* was significantly correlated with *HIV origins* ($r = .27$ $p < .001$); *blaming out groups* ($r = .13$, $p = .006$); *perceived severity* ($r = .21$, $p < .001$); *false beliefs* ($r = .24$, $p < .001$); *negative outcome expectancies* ($r = .25$, $p < .001$); and *condom self-efficacy* ($r = -.26$, $p < .001$).

7.6.5 Condom Self-Efficacy Hypothesis (Aim 1, Hypothesis 2)

Following Burkholder et al. (1999), an analysis was conducted to see if the relationship between *stigma* and intended and actual sexual behaviours was mediated by self-efficacy beliefs in relation to condom use (*condom self-efficacy*). Table 9 shows the correlations between *distancing* variables and *condom self-efficacy* (i.e. step 2 of the mediation analysis). As expected, greater *distancing* (i.e. *origin of HIV/AIDS* and *stigma*) was associated with reduced *condom self-efficacy*. Thus, higher scores on

the *distancing* variables as measured by beliefs about *origin of HIV/AIDS* and *stigma*) were associated with reduced confidence about overcoming obstacles to condom use. The association was not significant for *blaming out-groups* and *condom self-efficacy.*

Table 9 Correlations between distancing variables and *condom self-efficacy*

	Origins of HIV	Blaming out-groups	Stigma
Condom self-efficacy	-.17**	.02	-.26**

*p<.05. **p<.01. ***p<.001. n.s. = .10

Table 10 shows the correlations between *condom self-efficacy* and the *sexual behaviour* variables. As found by Burkholder et al. (1999) higher *condom self-efficacy* was associated with higher safety in sexual behaviour variables: *actual* and *intended safe sex* and *actual* and *intended condom use*.

Table 10: Correlations between *condom self-efficacy* and the sexual behaviour variables

	Actual safe sex	Intended safe sex	Actual Condom Use	Intended Condom Use
Condom self-efficacy	.29***	.43***	.23***	.51***

*p<.05. **p<.01. ***p<.001.

To determine if *condom self-efficacy* mediated the effect of *distancing* variables on future *intended sexual behaviour*, a regression analysis was conducted with *condom self-efficacy* and *stigma* (the only *distancing* variable that predicted *actual* and

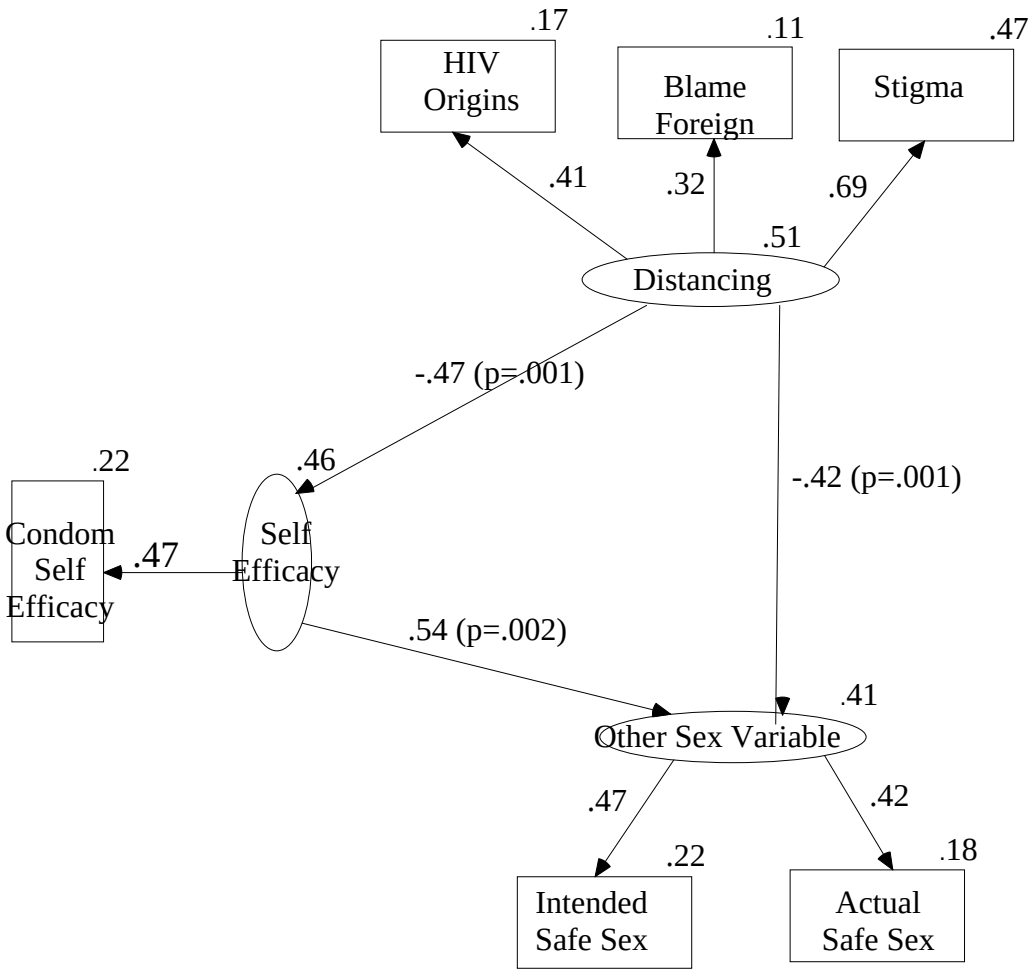
intended safe sex – see Table 8) as the predictors of *actual and intended safe sex* (step 3 of the mediation analysis). The individual regression coefficients for both predictors were significant, indicating that *condom self-efficacy* did mediate the relationship between *stigma* and *intended safe sex*, but it mediated only part of that relationship (beta for *stigma* = -.14, p = .001. For *condom self-efficacy*, beta = .38, p < .001.
A similar analysis was conducted with *actual safe sex* as the outcome variable. Again, the individual regression coefficient for *condom self-efficacy* was significant (beta = .20, p <.001), indicating a significant mediating effect. The beta coefficient for *stigma* was = -.24, p = .003. These results suggested that the effect of *stigma* on *actual safe sex* was not fully mediated by *condom self-efficacy*. Thus, the *condom self-efficacy* did not completely mediate the relationship between *stigma* and the *sexual behaviour variables*.

7.6.5.2 Confirmation of the Mediational role of Condom self Efficacy

To further confirm and establish the mediation paths of the *distancing* variables (comprising *origins of HIV*, *blaming out groups* and *stigma*), c*ondom self-efficacy* and *actual* and *intentions safe sex* was conducted; again using the Bollen-Stine bootstrapping within AMOS Version 16. The plausibility of the overall fit indices for the model was further assessed using the root mean square residual (RMSEA) and the comparative fit (CFI). The contributions of the individual variables of distancing and the usefulness of the mediating variable were also reported. The hypothesized designed paradigm is presented in Figure 2. The figures displayed next to the single-

headed arrows between the variables represent the standardized regression weights. The figures displayed next to the observed/measured variables (rectangles), represent the estimated variances (the squared correlation).

Figure 2: Structural equation model of relationships between distancing, condom self-efficacy and safer sex behaviours



The model provided a reasonable fit with the data (Bollen-Stine bootstrap – p=.240). The 95% *BC* was 0.13, 0.63. The RMSEA and CFI were adequate at 0.052 and 0.95 respectively, representing acceptable model fit (Hu & Bentler, 1999). *Condom self-efficacy* mediated the relationship between *distancing* and *actual* and *intended safe sex.* Overall, the model explained 22% of the variance in *intended safe sex* scores and 18% in *Actual safe sex* scores. *Stigma* and *Condom self-efficacy* variables were the most influential contributors. In addition, the path coefficients between the factors/variables (displayed as standardized regression coefficients) were statistically significant (p <. 01) in all of the measured variables. The findings support the hypothesis that *Condom self-efficacy* partially mediates the relationship between distancing and intended safe sex; and distancing and actual safe sex.

7.7.0 The impact of distancing (stigma, blaming and belief about origin of HIV) relative to the impact of other variables (Aim 2).

The impacts of all the measured variables to predict the four sexual behaviours as outcomes were assessed. The predictor variables were: *emotional threat (worry), perceived vulnerability* and *perceived severity* (from the health belief model); *condom self-efficacy, negative and positive outcome expectancies* (common to the health belief model and the theory of planned behaviour); and *subjective norms* (from the theory of planned behaviour). The demographic variables that were correlated with intended

condom use were also included in the analysis (specifically, *age (β= .20, p=.004), gender (β= .21, p<.001)* and *previous experience of sexual intercourse (β= .20, p=.001)*). These variables were entered alongside distancing variables (*stigma, blaming and belief about origin of HIV)* and the '*false beliefs*' variable as predictors in regression analyses. This was done by means of stepwise deletion regression analysis (entry p-value .05, removal p-value .10).

The model explained 31.4% of the variance in intended safe sex (adjusted R-squared = .31, F (14, 320) = 27.28, p<.001). The variables that made a significant unique contribution to the predictive power of the model were: *previous experience of sexual intercourse* (*β* = -.15, p=.002); *stigma* (*β* = -.23, p<.001); *perceived severity* (*β* = .11, p=.044); *personal moral views* (*β* = .23, p<.001) and *condom self-efficacy* (*β* = .23, p<.001). Thus, those who intended to practice safe sex tended to have fewer stigmatizing beliefs; to be without prior experience of sexual intercourse; to have higher personal moral views about the use of condoms; and to believe that they would not have sex without a condom in the face of obstacles to condom use.

For actual safe sex, the variance explained by the model was 17.7% (adjusted R-squared= .18, F (12, 111) = 7.16, p=.004). The variables that made a significant unique contribution to the predictive power of the model were: *age* (*β* = -.20, p=.033), *stigma* (*β* = -.25, p=.015), *condom self-efficacy* (*β* = .25, p=.027) and *personal moral views* (*β* = .25, p<.023). Thus, those who practiced actual safe sex tended to be

younger, have greater *condom self-efficacy* and higher *personal moral views* about the use of condoms, and had fewer *stigmatizing beliefs*.

Beside *actual* and *intended safe sex*, *actually used condom* and *intended condoms use* was also assessed. The model explained 27.8% of the variance in intended condom use (adjusted R-squared= .278, F (13, 321) = 10.515, p<.001). The variables that made a significant unique contribution to the predictive power of the model were: *previous experience of sexual intercourse* (β = -.12, p=.025); *stigma* (β = -.13, p=.018); *personal moral views* (β = .14, p=.013) and *condom self-efficacy* (β = .34, p<.001). Thus, those who intended to make more future use of condoms tended to have fewer stigmatizing beliefs; to be without prior experience of sexual intercourse; to have higher personal moral views about the use of condoms; and to believe that they would not have sex without a condom in the face of obstacles to condom use.

For *actual condom use*, the total variance explained by the model was 12.6% (adjusted R-squared= .13, F (12, 111) = 7.31, p=.009). The variables that made a significant unique contribution to the predictive power of the model were: *subjective norm* (β = .10, p<.043), *condom self-efficacy* (β = .34, p<.003) and *personal moral views* (β =.28, p=.013). Thus, those who actually used condoms tended to have higher subjective norms about the use of condoms; to have higher personal moral views about the use of condoms; and to believe that they would not have sex without a condom in the face of obstacles to condom use.

Condom self-efficacy was the most dominant of all the variables. However, of particular interest is the fact that stigma also made a significant contribution to the explanation of intended safe sex and intended condom use over and above the contribution of the other variables from the health belief model and the theory of planned behaviour.

7.7.1 The Comparative effects of Distancing, TPB and HBM on sexual behaviour variables (Aim 2)

It was of interest to know the effect size of the individual models: *Distancing, TPB* and *HBM* constructs on sexual behaviours. The contribution of the individual models and the other socio-cognitive variables (i.e. *false belief and moral views*) and their influence on the *sexual behaviour* variables (actual and intended safe sex) were thus measured. This was done by means of a backward deletion stepwise regression analysis (entry p-value .05, removal p-value .10). A separate analysis was conducted for each of the models.

7.7.2 The R-squared values for the *Distancing* on sexual behaviour variables

The two *distancing* variables (*blaming out-groups* and *stigma*) accounted for 12.2% of the variance in *intended safe sex* (r= .35, p <.001), and 9.9% in *actual safe sex* (r= .32,

p =.003). Beliefs about the *origins of HIV* did not contribute to the models. The addition of *false belief* variable improved the variances in *intended* and *actual safe sex* to 15.0% and 17.2% (i.e. r = .39, p <.001; r= .42, p =.001, respectively). Furthermore, the two distancing variables and *personal moral view* variables accounted for 23.1% (r= .48, p <.001) of the variance in *intended safe sex* and 15.7% in *actual safe sex* (r= .40, p <.001). Except for '*actual safe sex'*, beliefs about the *origins of HIV* did not contribute to the models' predictions; in this model, *blaming out-groups* variable made no contribution. *Distancing* strategies were not significantly related to *Actual Condom use.*

7.7.3 The R-squared values for the HBM on sexual behaviour variables

Table 11: Statistics for multiple regression analysis model for *HBM constructs* and *intended safe sex.*

Table 11A shows the variance explained by the constructs in *intended safe sex.* The model explained 21.0% of variance in *intentions* to practise safe sex (r= .46, p <.001). *Condom self efficacy* contributed the most to the model, but *positive outcome expectations* made no contribution to the model. The addition of *Emotional threat* variable to the model increases the total variance by 1.7% (β = .14, p =.004). The overall variance was 22.7% (r = .48, p <.001).

(a) Intended safe sex: F (5, 388) = 74.582; p < .001; adjusted R-squared = .210.

Table 11A: HBM and Intended Safe Sex

	Beta Coefficient	p value
Perceived Vulnerability	.16	.001
Perceived Severity	.12	.013
Emotional threat (Worry)	.14	.004
Condom Self Efficacy	.31	.000
Negative Outcome Expectations	-.13	.014
Positive Outcome Expectations	-.02	.720
Dependent Variable: Intended Safe Sex		

For *actual safe sex*, total variance explained by the model was lower (10.3%). Only *condom self-efficacy* contributed to the model (r= .32, p =.014). However, the inclusion of *false beliefs, emotional threat perceived severity* variable improved the models significantly to 18% (see Table 12B).

(b) Actual safe sex: F (7, 135) = 4.015, p < .001; adjusted R-squared = .180

Table 11B: HBM and Actual Safe Sex

	Beta Coefficient	p value
Condom Self Efficacy	.23	.027
False Belief	-.29	.002
Positive Outcome Expectations	-.18	.038
Perceived Severity	-.12	.035

Perceived Vulnerability	-.10	.045
Dependent Variable: Actual Safe Sex		

7.7.4 The R-squared values for the TPB on sexual behaviour variables (Aim 2)

Table 12: Statistics for final model in backward stepwise regression analysis for *TPB constructs* and *actual safe sex* Total variance explained in *actual safe sex* by the model was10.2% (r= .32, p =.010) (Table 12A). Again *condom self-efficacy* contributed the most to the model. *Positive outcome expectancies* variable was marginally significant, but s*ubjective norm* and *negative outcome expectancies* variables did not contribute to the model. The addition of *Personal Moral Views* variable to the model increases the total variance by 3.1% (β = .21, p =.023). The overall variance increased to 13.3% (r = .36, p =.005).

(a) Actual safe sex: F (4, 127) = 4.262; p = .010; adjusted R-squared = .102.

Table 12A: TPB and Actual Safe Sex

	Beta Coefficient	p value
Positive Outcome Expectations	.17	.067
Negative Outcome Expectations	-.04	.732
Subjective Norm	-.04	.672
Condom Self Efficacy	.27	.007
Dependent Variable: Actual Safe Sex		

(b) Intended safe sex: F (4, 364) = 18.599, p < .001; adjusted R-squared = .171

Table 12B: TPB and Intended Safe Sex

	Beta Coefficient	p value
Positive Outcome Expectations	-.01	.819
Negative Outcome Expectations	-.13	.020
Subjective Norm	.11	.029
Condom Self Efficacy	.32	.000
Dependent Variable: Intended Safe Sex		

For *intended safe sex* the variance explained w*as* 17.1% (r = .41, p <.001) (Table 13B). *Condom self-efficacy*, *negative outcome expectancies* and *subjective norms* were the main contributors to the model. *Positive outcome expectancies* did not contribute to the model. Again, the addition of *Personal Moral Views* variable to the model increases the total variance by 8.2% (β = .30, p <.001). The overall variance was 25.3% (r = .50, p <.001).

For *intended condom us*e the model's prediction was much higher (Table 13C). However, *positive outcome expectations* did not contribute to the model. *Personal Moral Views* variable increases the total variance marginally by 2% (β = .14, p = .004). The overall variance was 27.1% (r = .520, p <.001).

(c) Intended Condom Use: F (4, 364) = 30.16; p < .001; adjusted R-squared = .251.

Table 12C: TPB and Intended Condom Use

	Beta Coefficient	p value
Negative Outcome Expectations	-.13	.013
Positive Outcome Expectations	-.02	.727
Condom Self Efficacy	.42	.000
Subjective Norm	.11	.022
Dependent Variable: Intention to use condom		

(d) *Actual Condom Use*: F (4, 127) = 2.930, p = .024; adjusted R-squared = .087.

Table 12D: TPB and Actual Condom Use

	Beta Coefficient	p value
Negative Outcome Expectations	.07	.489
Positive Outcome Expectations	-.04	.638
Subjective Norms	.16	.051
Condom Self Efficacy	.25	.012
Dependent Variable: Actual Condom Use		

For actual condom use, *condom self-efficacy* and to some extent *Subjective Norm* were the most important variables. *Personal moral view* variable was marginally

significant. Nevertheless, it improves the prediction by 2.8% (β = .17, p = .06). The overall variance explained was 11.1% (r = .33, p =.016).

7.7.5 Comparisons of the R-Squared values of *Distancing, TPB* and *HBM* on *sexual behaviour* variables

For the purposes of further comparison, a separate analysis was conducted for each of the four *sexual behaviour* outcome variables, with each of the three measured models constructs being entered in as predictors and the R-squared was calculated. Table 14 shows the adjusted R-squared values from regression analyses. For each of the three outcome measures, the TPB explained a larger amount of the variance than the *distancing* and HBM variables. Distancing had the least predictive power. However, for both the TPB and HBM most of variance was explained by *condom self-efficacy*. The amounts of variance explained in actual safety in sexual behaviours were generally small. *Emotional threat* and *personal moral views* are traditionally not parts of the HBM and TPB but made significant contributions to some of the models. *Emotional threat* did not contribute to the HBM's predictions *of actual* and *intended condom use*.

Table 13: Amount of variance explained in the *sexual behaviour* variables by the *distancing* variables, the *TPB* and *HBM*

	Distancing (%)	**Distancing and False Belief (%)**	**Distancing variables and Moral Views (%)**	**HBM (%)**	**HBM constructs and Worry (%)**	**HBM constructs and False Beliefs (%)**	**HBM constructs and False Beliefs and emotional threat (worry) (%)**	**TPB (%)**	**TPB constructs and Personal Moral Views (%)**
Intended safe sex	12.1	17.2	32.1	21.0	22.7	21.8	23.4	17.1	24.3
Actual safe sex	9.9	15.0	15.7	10.3	11.7	17.3	18	10.2	13.3
Intended Condom Use	7.5	9.0	10.4	25.6	25.6	26.2	26.2	25.1	27.1
Actual Condom Use	4.0 (n. s.)	4.6 (n. s.)	8.2	7.1	8.2	10.2	10.9	8.7	11.8

Note: n. s. =Not significant

7.8 The Role of Personal Moral Views (Aim 3, Hypothesis 3)

Table 14 shows the correlation between the *personal moral views* variable and the sexual behaviour variables. As hypothesised, *personal moral views* were positively associated with *safer sexual behaviours*. *Personal moral views* also survived as significant predictors of actual and intended safe sex in the backward stepwise regression of all measured variables above. It is worth noting that *personal moral views* were distinct from *moral views of others*. The two variables were only modestly correlated ($r = .22$, $p < .001$), and the *moral views of others* variable had no significant correlations with the *sexual behaviour* variables.

Table 14: Correlations between Sexual behaviours variables and Personal Moral View and Moral View of Others

	Personal Moral View	Moral View of Others
Intended safe sex	.37***	.02
Actual safe sex	.26**	.09
Intended Condom Use	.25***	.06
Actual Condom Use	.19*	.00

*p<.05. **p<.01. ***p<.001. n.s. =.10

Intentions and Actual Behaviour

Higher intentions to practice safe sex were associated with actual safe sex (Table 15). Those who had higher intentions to practice safe sex and or use condoms were more likely to have practiced safe sex or used condoms.

Table 15: Correlations between Sexual Intentions and Actual Safe Sex

	Intended Safe Sex	Intended Condom Use
Actual safe sex	.29***	.25**
Actual Condom Use	.24**	.22**

*p<.05. **p<.01. ***p<.001.

7.9 Discussion of Aim 1, and Hypotheses 1 and 2 (Social Representations Hypotheses)

Stigma showed the relationships predicted by the social representation hypothesis: Higher stigmatizing attitudes were associated with reduced safety in intended sexual behaviour through the mediation of reduced perceptions of vulnerability. In the introduction, it was argued that these relationships are most likely to occur if participants are asked about their intended sexual behaviour rather than previous sexual behaviour. The results gave some support to this conjecture. These methodological considerations may explain why Burkholder et al. (1999) and Volk and Koopman (2001) failed to find evidence to support the hypothesis about the mediating role of perceived vulnerability, since both studies asked about prior sexual behaviour and both used samples that were more sexually active than the sample used in this study. It is worth noting, however, that, in common with the present study, Burkholder et al. did find a significant negative correlation between stigma and safe sex.

Belief about the *origin of HIV/AIDS* was however not significantly associated with higher levels of safety in actual and intended safe sexual behaviours as predicted by social representations hypothesis. Higher *blaming of out-group* scores were also associated with reported likelihood of safety in actual sexual practices and a greater intention to practise safe sex. Thus, those who were more blaming of others for the spread of HIV/AIDS were also more likely to act safely by protecting themselves from HIV infection.

Stigma significantly correlated with the variables labeled HIV origins, blaming out-groups, perceived severity, false beliefs, negative outcome expectancies and self-efficacy. The link between stigma and ignorance about the disease has been reported in previous studies (e.g. Boer & Emons, 2004; Volk & Koopman, 2001). From a social representation perspective, the correlations with HIV origins and blaming may be evidence that all three variables are expressions of an underlying motivation to alleviate anxiety about the disease by distancing oneself from it. Interestingly, all three variables were also significantly correlated with perceived severity, which would presumably feed this anxiety about the disease.

The correlations of stigma with and reduced self-efficacy are consistent with what Burkholder et al. (1999) found among students in the USA. Burkholder et al. (1999) reported a correlation between stigma and reduced self-efficacy beliefs about condom use. It may be that this correlation was an artifact of the way in which self-efficacy beliefs were measured (i.e. by asking whether the participant would go ahead and have

sex without a condom when various obstacles to their use had arisen). If those who hold high stigmatizing beliefs are less likely to use condoms for other reasons, then they may also be more likely to go ahead and have sex without a condom despite the presence of obstacles to their use.

7.10 Discussion of Aims 2 and 3, and Hypothesis 3

Results concerning Aim 2 (to compare the effects of distancing on sexual behaviour with those of the TPB constructs) were mixed. A comparison of their effects on actual/intended condom use indicated that some of the TPB and HBM variables, particularly, condom self efficacy, had stronger associations with the three outcomes than the *distancing* variables. The effect sizes of the three models (*Distancing, TPB and HBM*) were quite similar. However, when the *distancing* variables and the TPB and HBM variables were included alongside all other variables in the backward stepwise prediction of the wider variables of *actual* and *intended safe sex and actual condom use, stigma, blaming* and *origin of HIV* survived as significant predictors for some of the outcomes, but *positive* and *negative outcome expectancies* did not. Nevertheless, the results suggested that distancing does merit further investigation as a potential contributor to unsafe sex over and above some of the constructs of the TPB (subjective norms, outcome expectancies) and the HBM (since *perceived vulnerability and perceived severity*).

Hypothesis 3 proposed that individual moral views about sexual behaviours would be significantly related to actual and intended sexual behaviours. As expected, *personal moral views* had significant positive correlations with *actual and intended safe sex* and actual condom use (Table 14). In other words, those with strong views in favour of safer sex were more likely to have had safe sex. The variable also survived as a significant predictor of *intended safe sex* in the backward regression analysis. These results suggest that individuals' moral views may merit further investigation in the context of the cognitive model of safe sex behaviour, as another variable over and above those proposed by the TPB and the HBM.

Two final points are worth highlighting from the results. First, the significant effects that did occur were moderate. Large amounts of the variance in the sexual behaviour outcomes were unexplained by the Social Representation theory, TPB, HBM and demographic variables. In the backward stepwise regression analyses, most of the variances in *actual safe sex and* in *intended safe sex* were accounted for by *stigma*, *condom self-efficacy*, *personal moral views* and *false beliefs*. Second, *actual safe sex* and *intended safe sex* were correlated, but had different relationships with some other variables that were measured. These points suggest that for the cognitive approach to safe sex in the context of HIV, false belief about HIV/AIDS and personal moral value should be given some amount of prominence.

Chapter Eight

8.0 Ghana Study 2

8.1 Introduction

The previous chapter reported the findings of relationships predicted by the social representation hypothesis that, higher distancing attitudes were associated with reduced safety in intended sexual behaviour through the mediation of reduced perceptions of vulnerability, and the associations between greater distancing and reduced condom self-efficacy. However, the associations between greater distancing and reduced condom self-efficacy and between greater distancing and reduced safe sex intentions remained unexplained in the first study. This second study was conducted in Ghana and served as a replication of some aspects of Study 4. This study attempted to shed more light on these associations found in the previous study by investigating them in the context of some broader, more established psychological constructs – specifically, generalised self-efficacy (Jerusalem & Schwarzer, 1992; Schwarzer, & Jerusalem, 1989), locus of control (Rotter, 1966) and just world beliefs (Rubin & Paplau, 1975; Lerner & Millar, 1978). By using these measures with more established reliability and validity, it was hoped to avoid some of the inevitable measurement problems created by the use of ad hoc questionnaires. The use of constructs set within broader

psychological theory, was also expected to provide a more convincing theoretical basis for the hypotheses about the nature of these associations. Brief reviews of the more established psychological constructs used are provided below.

8.2 General Self Efficacy (GSE)

The Generalized Self Efficacy Scale is based on Bandura's (1977) self-efficacy construct. Bandura (1977) described perceived self efficacy as a person's beliefs about their capabilities to implement courses of action required to accomplish specified goals. These beliefs can either enhance or impede the motivation to act and therefore can affect an individual's behaviour (Bandura, 2001). Although Bandura took the view that self-efficacy beliefs are specific to different domains of activity (and so should be measured specific to the domain of interest), others (e.g. Jerusalem & Schwarzer, 1992; Schwarzer, 1994, 1996; Schwarzer, Bäbler, Kwiatek, Schröder & Zhang, 1997; Schwarzer & Fuchs, 1995, 1996) have argued for a more global construct that is relatively stable across different domains and so can be measured at a more global level.

On the basis of this suggestion, Jerusalem and Schwarzer developed the GSE Scale as a measure of global confidence in one's ability to cope with a wide variety of demanding or novel situations (Jerusalem & Schwarzer, 1992; Schwarzer & Jerusalem, 1989). The scale was designed for the general adult population, but it is reported to be applicable to people as young as 12

(Schwarzer, & Jerusalem, 1989). Reported internal consistencies (Cronbach's alpha) range from .75 to .90, and satisfactory validity studies have also been reported by a number of researchers (e.g. Chen, Gully, & Eden, 2001, 2004; Luszczynska, Gutierrez-Dona & Schwarzer, 2005; Luszczynska, Scholz & Schwarzer, 2005; Scherbaum, Cohen-Charash & Kern, 2006; Schwarzer, 1992, 2001; Schwarzer et al., 1997). Schwarzer et al. (1997) reported that GSE correlated positively with self-esteem and optimism and negatively with anxiety and depression.

Support for the GSE has also been found in the areas of health behaviours including HIV/AIDS related sexual behaviours (e.g. Abraham et al., 1999; Abdullah, Fielding, Hedley, Abrahim & Luk, 2002; Luszczynska, Gibbons, Piko & Tekozel, 2004; Luszczynska, Mohamed & Schwarzer, 2005; Luszczynska, Mazurkiewicz, Ziegelmann, & Schwarzer, 2007; Luszczynska, Sarkar & Knoll, 2007; Luszczynska, & Schwarzer, 2003; Mystakidou, Parpa, Tsilika, Galanos & Vlahos, 2008; Scholz, Gutiérrez-Doña, Su, & Schwarzer, 2002; Schwarzer & Luszczynska, 2007). All the studies found self efficacy beliefs are related to various health behaviour practices and intentions including HIV/AIDS preventive behaviours. For example, in a study that tested the relationship between intentions to use condom among 447 university students, Abraham et al. (1999) reported that GSE correctly classified 80% of intenders who wanted to use condoms as well as distinguished between those who reported using a condom with their last new sexual partner and those who did not. In another study of HIV

risk reduction behaviours among inner city women in USA, Banou (2007) found that women with higher levels of GSE reported less vaginal sex without a condom and fewer sexual partners.

8.3 Belief in a Just World (BJW)

The Just World theory (Lerner & Miller, 1977, 1978; Rubin & Peplau, 1973, 1975) involves the idea that individuals have a need to believe that they live in a world where people generally get what they deserve. Lerner (1980) and Lerner and Miller (1978, 1986) maintained that this belief enables people to deal with their physical and social environment as if it were stable and orderly and so serves important adaptive functions. As a result of people's motivation to protect this belief, individuals can be greatly troubled if they encounter evidence that suggests that the world is not really just and orderly. Lerner and Miller (1978) argue that, if one is to commit oneself to the everyday regulation of social behaviours as well as the pursuit of long term goals, then one needs to believe that physical and social environments are orderly and stable. They reasoned that the BJW is like a personal contract between the individual and his/her social world and entails an obligation to maintain and act in a just manner. Thus the more strongly individuals endorse the belief in a just world, the higher the obligation they feel to act in a just manner.

Furthermore, Rubin and Peplau (1975, p. 66) maintain that the just world construct is “an attitudinal continuum extending between the two poles of total acceptance and total rejection of the notion that the world is a just place”. They demonstrated that the strength of the BJW varies between individuals and so developed the Just World Scale (Rubin & Peplau, 1973, 1975) to measure the extent to which respondents believed that the world is a just place.

An aspect of the Just World Theory of particular interest in the context of the present study is the idea that those who more strongly endorse BJW will perceive victims of unfortunate circumstances as receiving their just reward for some undesirable behaviour or moral defect and view success as a manifestation of virtue. They therefore judge questionable actions more harshly and avow less intention to perform the questionable actions themselves.

Studies have confirmed this relationship between the BJW construct and ethical judgment and behaviours (e.g., Anderson, Cooper & Okanura, 1997; Dalbert, 1998, 1999, 2001; Dalbert, Lipkus, Sallay & Goch 2001; Lipkus, Dalbert & Siegler, 1996; Lupfer, Doan & Houston, 1998; Sutton, & Douglas, 2005). For example, Anderson et al. (1997) and Lambert and Raichle (2000) found that individuals holding strong BJW often display little sympathy for victims of negative events and situations and blame them for their own misfortune.

In the area of health risk, BJW has been linked to whether or not people consider themselves to be at risk of experiencing these negative events including HIV/AIDS (Hafer, Bogaert & Mcmullen, 2001; Lambert, Burroughs & Nguyen, 1999). Lambert et al. (1999), using a sample of undergraduates, found that a strong BJW was associated with less perceived vulnerability to a variety of serious negative events including the risk of contracting AIDS, but only for those with right-wing authoritarian beliefs. Hafer et al. (2001), in a study of homosexual and bisexual men, found that a strong BJW was associated with riskier sexual practices (e.g. less condom use), but only for those who reported themselves to have low levels of control in interpersonal relationships or to be low in secure attachment style. On the basis of the earlier study by Lambert et al., Hafer et al. speculated that the link between BJW and riskier sexual practices was mediated by a decreased sense of personal risk.

8.4 Locus of Control (LOC)

Locus of Control (Rotter, 1966) is the degree to which individuals believe that outcomes are contingent upon their personal characteristics or behaviour. LOC can be either internal (meaning that the person believes they control their life) or external (meaning that they believe what happens to them in their life is due to external forces). Vast amounts of research have demonstrated a relationship between locus of control and behaviour in many situations (e.g., Burger, 1985; Burns & Dillon, 2005; Crisp & Barber, 1995; Dunn, Elsom & Cross, 2007; Loue,

Cooper, Traore & Fiedler, 2004; Phares, 1976; Rotter, 1990; Shehu & Mokgwathi, 2008; Strickland, 1989; Ugoji, 2008). In general, these studies suggest that individuals with internal LOC are more likely to judge ethically ambiguous actions as unethical and that they are also more likely to form intentions to behave ethically. For example, Trevino (1986) found that a person with internal LOC is more inclined to take responsibility for the consequences of his or her behaviour than a person with an external LOC. Dunn, Elsom, and Cross (2007) found that among psychiatry nurses in Turkey, internal locus of control was associated with the nurses' self-respect, motivation for success, and ability to control events, and that it was directly related with their perceived self-efficacy.

The concept of LOC has also been applied to HIV/AIDS. Fisher and Misovich (1990) found that homosexual men with a high internal LOC were more likely to practice safer sex compared to their external counterparts. Loue, Cooper, Traore and Fiedler (2004) examined the relationship between higher risk sexual behaviour and perceived LOC in sexual relationships among a sample of 150 Hispanic women in the United States. They found that an external LOC was significantly associated with increased HIV risk behaviours. The women attributed their risk to their male sexual partners. Also, Crisp and Barber (1995) examined the relationship between LOC and HIV/AIDS risk perception and sexual risk-taking among injecting drug users in Australia. They found that only those with an internal LOC made moderately accurate assessments of their HIV risk. However it did not result in safer behaviours. However, Burns and Dillon

(2005) found that, among African American undergraduate students, LOC did not predict condom use.

LOC has typically been measured using Rotter's Internal-External Locus of Control Scale (Rotter, 1966). The internal reliability reported by many researchers for the scale has been .70 or above. This scale is composed of 23 pairs of forced choice expectancy statements along with 6 filler items. Scores on the scale can range from 0 to 23, with higher scores indicating a more external locus of control (See Appendix G).

8.5 Aims and Hypotheses of Study

Aim 1: Replication of Social Representations Hypothesis

This study provided the opportunity to re-test the social representation hypothesis (found to be supported in the first quantitative study) with a different sample (Hypothesis 1). It also investigated further the association between distancing and less safe sexual intentions that was observed (but unexplained) in the study. The hypothesis is:

- H1: Greater distancing representations as measured by beliefs about origin of HIV, blaming of out-groups and stigma will be associated

with less safe sexual intentions/behaviour, and this effect will be mediated by reduced perceptions of personal vulnerability (i.e. the social representation hypothesis).

Aim 2: Belief in a Just World: The first study attempted to establish a link between stigma, perceived vulnerability and intended safe sex. Previous research (reviewed in the Introduction to this chapter) has found evidence that BJW is associated with all three of these variables (stigma, perceived vulnerability and intended safe sex). But this evidence is not extensive and needs replication. More importantly, if BJW is associated with all three, it may be that BJW partly explains the relationships between these three. The evidence that perceived vulnerability mediates the relationship between stigma and sexual intentions is not conclusive proof of the causal relationships hypothesized to exist between these variables. It may be, for example, that the relationships between them occur because all three of them are influenced by BJW. So another aim was to investigate whether the relationships amongst stigma, perceived vulnerability and intended safe sex remained when the influence of BJW was taken into account. This was done by including BJW as an extra variable in the final regression step

of the mediation analysis as an extra predictor alongside stigma and perceived vulnerability. The hypotheses were:

- H2: BJW will be associated with reduced perceived vulnerability (Lambert et. al., 1999).

- H3: BJW will be associated with reduced safety in sexual behaviour (Hafer et. al., 2001).

- H4: BJW will be associated with increased use of distancing strategies (Including stigma) (evidence reviewed in the introduction that those with high BJW are more blaming in their attitudes towards others who fall victim to misfortune).

- H5: The links between stigma, perceived vulnerability and intended sexual behaviour will be weakened when BJW is taken into account.

Aim 3: Distancing and Self-Efficacy Beliefs: The aim here was to determine the association between reduced *condom self-efficacy beliefs* and greater *distancing* (observed in the first study). That is, the unexplained findings from Burkholder et al. (1999) and from the first study of a negative correlation between *condom*

self-efficacy and *stigma*. The present study provided another opportunity to replicate this result with another sample. It is also to explore whether the correlation was specific to *condom self-efficacy belief*s or related to more *general self-efficacy* and to *locus of control* – which has the additional advantage of using established validated measures. So the further hypotheses were:

- H6: Greater distancing representations will be associated with less safe sexual intentions/behaviour, and this effect will be mediated by reduced self-efficacy beliefs.

- H7: That those who feel generally less self-efficacious or who have an external locus of control will feel more vulnerable to HIV, and so will make greater use of distancing strategies to alleviate their threat of HIV/AIDS.

8.6 Methodology

8.6.1 Measures

A shortened version of the questionnaires devised for the first Ghana questionnaire study (Study 4) was used (see appendix G). Variables related to the theory of planned behaviour considered irrelevant to the hypotheses were

omitted. This shortened version of the questionnaires was used together with three standardized measures: *Locus of Control* (Rotter, 1966), *General Self Efficacy* (Jerusalem & Schwarzer, 1995; Schwarzer & Jerusalem, 1992) and *Belief in a Just World* S*cales* (Rubin & Paplau, 1973, 1975; Lerner & Millar, 1978). Table 16 below presents the scales used for the study.

Table 16 Questionnaires for Study 5

(i) Psychological distancing variables:
o *Origins of HIV* (6 items)
o *Blaming out-groups* (6 items)
o *Stigma* (30 items)
(ii) Appraisal of the threat from HIV/AIDS:
o *Perceived Vulnerability* (8 items)
o *Emotional threat (4 items)*
o *Perceived Severity of HIV/AIDS (4 items)*
(iii) Condom Use:
Negative outcome expectancies (18 items)
Condom self-efficacy (8 items)
(iv) Actual and intended sexual practice
o *Ever had sex* (1 item)
o *Intended safe sex* (16 items)
o *Actual safe sex* (10 items)

(v) *Locus of Control Measure* (12 items, Rotter, 1966)
(vi) *Belief in a Just World Scale* ([BJW], 16 items], Rubin & Paplau, 1975; Lerner & Millar, 1978)
(vii) *Generalized Self Efficacy Scale* ([GSE] 10 items, Schwarzer & Jerusalem, 1995)

Scoring of Measures

Answers to the first four questionnaire items (*distancing, perceived vulnerability, condom self-efficacy, and actual and intended sexual practice variables*) were scored with a 0 or a 1. The justifications for the scores were the same as for the previous study. Higher scores were associated with higher exhibition of the behaviour being measured. The three standardized questionnaires were scored as prescribed by their authors (Rotter, 1966; Rubin & Paplau, 1975; Jerusalem & Schwarzer, 1979). For the *Belief in a Just World Scale*, Rubin and Paplau suggested that it is beneficial to make a distinction between BJW for self versus for others. Appendix G contains a copy of the questionnaires, the scoring guide for the study and the items used for specific constructs.

8.6.2 Recruitment of Participants

Students from the two co-educational schools used for the first Ghana quantitative study (Study 3) were sampled for this study. These schools were selected for the study because they presented the most interesting findings and were more representative of secondary school students. The recruitment of the participants and questionnaire administration were the same as for the previous questionnaire study. One hundred and twenty two students (comprising of equal numbers of males and females) from each school were randomly selected. The rationale for the sample sizes is the same as mentioned in previous studies (Studies 2 and 4).

8.6.3 Procedure

As with the previous surveys, data collection took place during school hours. Questionnaire administration processes and instructions were the same as for the previous surveys. Participants enveloped their completed questionnaires and dropped them in a box placed in front of the classroom. The questionnaires took about 30 minutes to complete.

8.6.4 Participants' Characteristics

In all 242 students (121 males and 121 females) were randomly selected from each of the two selected schools. All the selected participants returned their

questionnaires, and none requested that their data be destroyed. However, four participants were excluded from the study because they completed just about a third of their questionnaires. The ages of those whose data were analyzed ranged from 15 – 22 years with a mean age of 16.9 (SD 1.3) and a mode age of 17 years. Participants from the Akan tribes constituted 46%, Ga-Dangmes 16, Ewes 28%, Mole Dagombas 8% and others 2%. Christians made up 93% of the participants, 7% Muslims and the remainder belonged to other religions. The fathers of 31% of the sample were professionals; 27% business/self employed; technicians 7% and the remainder did other jobs. 2% of the fathers were deceased; 7% of the data were missing. The mothers of 2% of the sample were housewives; 17% were professionals; 62% business/self employed; 4% craft workers and the remainder did other jobs. 6% of the data were missing. Twenty three percent (*N = 56*) of the sample reported ever having sex, at least once. Eleven percent stated that, they know someone who was HIV positive.

8.6 Data Analysis

The data were analysed using SPSS 16.0 for Windows (SPSS Inc., 2007) for the correlations. As with the first study, the data were prepared for analysis using the methods suggested by Tabachnik and Fidell (2001). Again, some subscale scores (*perceived severity*, *condom self efficacy* and *intended safe sex*) distributions departed significantly from normal (see Appendix G). The scores distributions were all negatively skewed and so reverse score transformations were again used

to transform the skewed data. The scores were reflected, square root taken, and then logs reflected. Transformations improved the distribution sufficiently on these scores. Furthermore, the *General Self-Efficacy* and *Locus of control scores* had two outliers each; with values that were markedly higher than the rest. These outlying scores were adjusted to be one unit above the next highest score in the data set (i.e., the next highest score plus one) (Field, 2005).

8.7.0 Results

8.7.1 Descriptive Statistics

Table 17 below provides the mean, standard deviation and Cronbach's alpha for each subscale. The Cronbach's alpha for some of the subscales was below the 0.7 value usually considered as the benchmark for adequate internal consistency (Kline, 2000). The results of the analyses therefore need to be interpreted with some caution because some of the scales lacked internal reliability.

Descriptive Statistics

Table 17

No.	Scales & Subscales	N	Mean	Std. Deviation	Cronbach's Alpha	Number missing in analysis	
						No.	Percent
1	**Distancing variables:**						
	Origin of HIV	204	3.54	1.35	0.40	34	14.3

	Blaming Out-Group	228	5.15	1.43	0.77	10	4.2
	Stigma	179	12.40	5.12	0.81	59	24.8
2	**Threat appraisal variables:**						
	Perceived Vulnerability	197	6.34	1.90	0.58	41	17.2
	Perceived Severity	214	3.58	1.13	0.47	24	10.1
	Emotional Threat (Worry)	220	2.75	.99	0.31	18	7.6
3	**Condoms use outcome variable:**						
	Negative Outcome Expectancies	177	8.31	3.94	0.78	61	25.6
4	**Self – Efficacy Beliefs variables:**						
	Condom Self Efficacy	228	5.61	2.31	0.79	10	4.2
	General Self Efficacy	222	30.80	4.77	0.74	16	6.7
5	**Sexual behaviour variables:**						
	safe sex Intention	206	12.35	3.01	0.75	32	13.4
	Actual Safe Sex	44	5.89	1.86	0.41	10	17.8
6	**Locus of Control**	216	4.08	2.01	.43	22	9.2
7	**Beliefs in a Just World variables:**						
	Just World Belief for Self	196	4.94	2.03	0.64	42	17.6
	Just World Belief for Others	197	3.86	2.21	0.70	41	17.2
	Just World Belief in General	177	8.84	3.96	0.81	61	25.6

8.7.2 Missing Data

Table 17 also provides information about the percentage of participants providing complete data sets on each variable. All demographic information was present apart from one participant who did not provide information about his ethnicity and another who did not indicate his age. Ten participants also provided no information about the occupation of either or both parent: three gave no information about their mothers' occupations, four gave no information about their fathers' occupations and the remaining four gave no information about both parents.

For the questionnaire, the total number of possible responses was 238 (participants) x 166 (items) = 39,508. Of these, 673 values (1.70%) were missing. The mean number of missing values per item was 3.5, with a median of 0 and a mode of 0. The item with the highest number of missing responses was question 2 ("My girlfriend/boyfriend would not like me to keep a supply of condoms at home "), with 21 participants failing to answer this. The highest number of items missed by a participant was 30.

Again, although the rate of missing data was relatively low, because of the way they were distributed, the rate of missing values for the sub-scale scores from the questionnaire was higher. The total number of possible sub-scale totals was 238 (participants) x 14 (sub-scale scores) = 3, 332. Of these, 398 data was missing

from 72% of the participants. Only 28% (67) of the participants missed no items and 66% missed 4 or fewer items. The highest rate of missing values was for the '*negative outcomes of condom use*' variable, with 26% of the participants failing to answer all of the items relating to this sub-scale total; the next highest was the '*stigma*' variable (24.8%); followed by the '*Just World Belief in General*' (17.6%) and *origin of HIV* (12%) variables. The likely explanation of some of the increased rate of omissions could be because the participants simply did not have factual knowledge or did not want to speculate. For instance the omissions about the 'negative outcomes of condom use' were significantly higher amongst those who reported they had never had sex compared to those who reported they had (30.1% vs. 12.5%). It is likely that those with no experience of condom use may have felt unable to answer questions about negative aspects of their use. Likewise, questions about the origins of HIV may have been omitted on the grounds that the person considered that they simply did not know.

As was done in the case of the first study, the present study treated the missing data as 'non-ignorable missingness' (NIM) (Little & Rubin 1987) and handled in a similar manner. Values of 0.5 were substituted for those subscale scores where the participant had given a response for at least three-quarters of the items making up the subscale; otherwise, it was treated as missing. The rationale for treating the data as NIM and the justifications for the use of 0.05 were the same as for previous study (see chapter 7).

8.7.3 Correlations

8.7.4 Re-test of social representation hypothesis (Hypothesis 1)

As stated in the previous study, the traditional mediation analysis, as described by Kenny et al. (1998), involves three steps. The first step of a mediation analysis was to establish whether there is an effect to be mediated. Table 18 provides the correlations between the *distancing* and *sexual behaviour* variables. The *distancing variables* showed a similar pattern of results to that obtained in the first study. Of the three *distancing* variables, only *stigma* and *origins of HIV* were associated with *intended safe sex* in the predicted direction. The relationship with *actual safe sex* though not significant was in the predicted direction. *Blaming out-group* was significantly associated with *intended safe sex* in the opposite direction to that predicted.

Table 18: Correlations between *distancing* and *sexual behaviour* variables

	Origins Of HIV	Blaming Out-groups	Stigma
Actual Safe Sex	-.10	.02	-.01
Intended safe sex	-.13*	.31***	-.25***

Note: *p<.05. **p<.01. ***p<.001

The second step in the mediation analysis is to test whether the predictors and the proposed mediator (the *perceived vulnerability* variables) are associated. Table 19 shows the correlations between the *perceived vulnerability* and *distancing* variables. As in the first study, *perceived vulnerability* was significantly associated with both *stigma* and *origins of HIV* in the predicted direction and *blaming out-groups* was again in the opposite direction. Greater *stigma* and belief about *origin of HIV* were associated with reduced sense of *vulnerability*.

Table 19: Correlations between *distancing* and *perceived vulnerability* variables

	Origins of HIV	Blaming out-groups	Stigma
Perceived Vulnerability	-.16*	.24***	-.19**

*p<.05. **p<.01. ***p<.001

As *origins of HIV* and *stigma* variable showed the expected correlations with intended safe sex in the first two steps, the last step of the mediation analysis was completed for the two variables. Analysis was conducted for only the intended safe sex variables (the only significant sexual behaviour variable). In the final step of the mediation analysis completed with *origins of HIV* and stigma, the regression coefficients for both stigma and perceived vulnerability were significant – indicating that the relationship between higher stigma and reduced intended safe sex was mediated by reduced perceived vulnerability, but that this

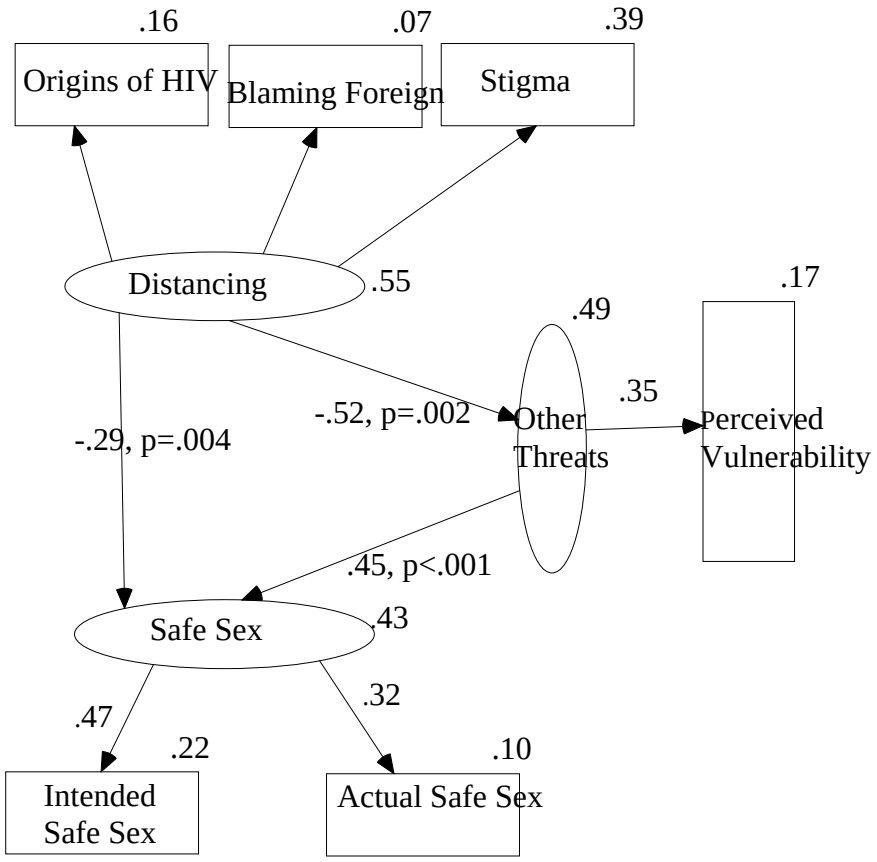
mediation was only partial (part correlation for stigma = -.20, p=.003; part correlation for perceived vulnerability = .16, p=.019).

When both *origins of HIV* and *perceived vulnerability* were entered as predictors of intended safe sex, there was no mediation effect as only *perceived vulnerability* made a significant unique contribution to the outcome. The regression coefficients for *origins of HIV was* -.087, p=.213; beta coefficient for *perceived vulnerability* = .190, p=.007. The findings of the first study were thus replicated. As in the first study, the mediation hypothesis was not supported for actual safe sex.

8.7.4.2 Confirmation of the Mediation Analysis Using of Bootstrap test

Further test was conducted to confirm the mediation effect found above. The bootstrap test within AMOS was used to establish the relationship among the individual variables of distancing (comprising *origins of HIV, blaming out groups* and *stigma*), the mediating variable of perceived vulnerability and the dependent variable of *safe sex intentions*. The reasons for using the bootstrap test within AMOS Version 16 (ADC/SPSS, 2008) are the same as for the previous study. A diagram of the hypothesized designed paradigm is presented in Figure 3.

Figure 3: Structural equation model of relationships between distancing, perceived vulnerability and sexual intentions and behaviours



Again, the estimation procedure employed the Bollen-Stine bootstrapping procedure. The Bollen-Stine bootstrapping, the root mean square residual (RMSEA) and the comparative fit (CFI) were used to evaluate the overall fit of the model. The plausibility of the hypothesized model was further evaluated to

assess the contributions of the individual contributions of the subscale variables of distancing and the usefulness of the mediating variable.

The model provided a reasonable fit with the data (Bollen-Stine bootstrap – p=.138 (95% BC was 0.23, 0.63). Similarly, the normal theory RMSEA and CFI were adequate at 0.053 and 0.95 respectively, representing acceptable model fit (Hu & Bentler, 1999). The figures displayed next to single-headed arrows between the variables suggest significant standardized regression weights of the structural path or regression between the distancing variables, perceived vulnerability and sexual behaviour. The figures displayed next to the observed/measured variables (rectangles) (the squared correlation/ percentage variability accounted for by the sample). These were all significant at p-value of less than 0.05. Overall, *the model* explained 22% of the variance in *intended safe sex* scores and 10% in *actual safe sex* scores. Again, the findings support the hypothesis that, perceived vulnerability partially mediates the relationship between *distancing* and *intended* and *actual safe sex*. *Stigma* and *perceived vulnerability* variables were the most influential contributors.

8.7.5 The role of Belief in a Just World (Aim 2 Hypothesis 2)

Following Lambert et al. (1999), an analysis was conducted to see if there will be a significant association between *BJW* and reduced *perceived vulnerability*.

Table 20 shows the correlations between *BJW* and *perceived vulnerability* variables. These were in the same direction observed by Lambert et al. Higher scores on the *BJW* variables were associated with reduced *perceived vulnerability*. This hypothesis was thus supported.

Table 20: Correlations between *BJW and Perceived vulnerability*

	BJW for Self	BJW for Other
Perceived vulnerability	- .17*	- .34***

Note: *p<.05. **p<.01. ***p<.001.

8.7.6 The role of Belief in a Just World (Aim 2 Hypothesis 3)

This hypothesis that retests the findings by Hafer et al. (2001) that, there will be association between *BJW* and reduced safety in sexual behaviour was not supported. Table 21 shows the correlations between *BJW* variables and *sexual behaviour* variables. Although correlations were in the predicted direction, none was significant.

Table 21: Correlations between BJW and actual and *intended safe sex*

	BJW for Self	BJW for Other
Actual Safe Sex	.08	.11
Intended safe sex	-.05	-.10

Note: *p<.05; **p<.01; ***p<.001. n. s. =.10

8.7.7 The role of Belief in a Just World (Aim 2 Hypothesis 4)

The hypothesis suggested that BJW will be associated with increased use of *distancing* strategies (including stigma) (evidence reviewed in the introduction that those with high BJW are more blaming in their attitudes towards others who fall victim to misfortune) was partly supported. Table 22 shows the correlations between *BJW* and *distancing* variables. *BJW-Other* was significantly correlated with *stigma* in the predicted direction; though they did approximate significance for the BJW-Other variable. None of the *BJW-Self* variables correlations was significant. Thus, those who believe that other people generally get their just deserts in life showed a tendency to have greater stigmatizing attitudes.

Table 22: Correlations between BJW, *Distancing variables*

	BJW for Self	BJW for Other
Origin of HIV	.09	.13*
Blaming out-groups	.01	- .11*

Stigma	.07	.15*

Note: *p<.05. **p<.01. ***p<.001

8.7.8 The role of Belief in a Just World (Aim 2 Hypothesis 5)

This hypothesis states that the links between stigma, perceived vulnerability and intended sexual behaviour will be weakened when BJW is taken into account. This hypothesis was not supported. When BJW-Other was included in the final regression step of the mediation analysis, the results indicated that both stigma and perceived vulnerability still made a significant unique contribution to the variance in intended safe sex, indicating that, even controlling for the effects of BJW-Other, there was still a significant partial mediation effect and a significant non-mediated direct effect (beta coefficient for *stigma* = -.20, p=.004; beta coefficient for *perceived vulnerability* = .14, p=.04, beta coefficient for *BJW-Other* = .02, p=.782). Further confirmatory analysis with the use of structural equation modelling to test the links between the variables was therefore not carried out.

8.7.9 Re-test of the relationship between *Distancing* and *Condom Self-efficacy* (Aim 3 Hypothesis 6 and 7)

The present study attempted to replicate the unexplained finding from Burkholder et al. and from the first study result with another sample (H 6).

Tables 23 and 24, show the relevant correlations of the first two steps of the mediation analyses. The findings of negative correlations between *condom self-efficacy* and *stigma* and *condom self-efficacy* and *intended safe sex* were replicated.

Table 23: Correlations between *distancing* and *condom self-efficacy* variables

	Origins of HIV	Blaming out-groups	Stigma
Condom self-efficacy	-.03	.25***	-.31***

Note: *p<.05. **p<.01. ***p<.001

Table 24: Correlations between *sexual behaviours and condom self-efficacy* variables

	Actual safe Sex	Intended Safe Sex
Condom self-efficacy	.19	.40**

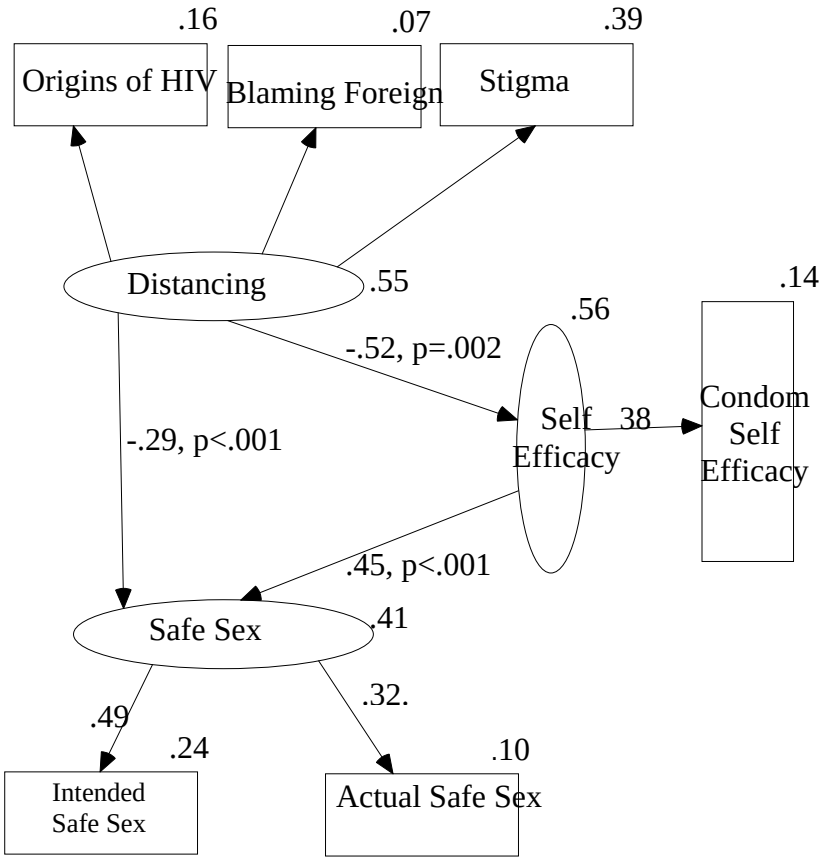
Note: *p<.05. **p<.01. ***p<.001

To determine if *condom self-efficacy* mediated the effect of *stigma* on future *intended sexual behaviour,* a regression analysis was conducted with *condom self-efficacy* and *stigma* (the only distancing variable that predicted *intended safe sex* – see Table 23) as the predictors of *intended safe sex* (step 3 of the mediation analysis). The individual regression coefficients for both predictors were significant, indicating that *condom self-efficacy* did mediate the relationship between *stigma* and *intended safe sex*, but it mediated only part of that relationship (beta for *stigma* = -.14, p = .023). For *condom self-efficacy,* beta was = .37, p < .001. Thus, the *condom self-efficacy* did not completely mediate the relationship between *stigma* and the *intended safe sex* when the effect of *condom self-efficacy* on sexual behaviour was controlled. The findings of the previous study and that of Burkholder et al. (1999) were thus replicated.

8.7.9.2 Confirmation of the Mediation Analysis with Condom Self Efficacy

A confirmatory test to establish the paths of the *distancing* and *condom self-efficacy variables,* path analysis was used with the variables of *distancing* (comprising *origins of HIV, blaming out groups* and *stigma*) and *actual* and *intentions safe sex*. Again, AMOS Version 16 (SPSS, 2008) was used to conduct the modelling.

Figure 4: Structural equation model of relationships between distancing, condom self-efficacy and safer sex behaviours



The analysis employed the estimation methods reported above. The model provided a reasonable fit with the data (Bollen-Stine bootstrap – p=.129, 95% BC was 0.43, 0.83). The RMSEA and CFI were adequate at 0.051 and 0.92 respectively, representing acceptable model fit (Hu & Bentler, 1999). The contributions of the individual variables of distancing and the usefulness of the

mediating variable were also significant at less than 0.05 levels. *Condom self-efficacy* partially mediated the relationship between *distancing* and *intended safer sex.* Overall, *the model* explained 24% of the variance in *intended safe sex* scores and 10% in *actual safe sex* scores. These findings support the hypothesis that *condom self efficacy* partially mediates the relationship between distancing and *intended* and *actual safe sex*. *Stigma* and *Condom self-efficacy* variables were the most influential contributors.

8.7.10 *Distancing* and *Self-efficacies, Perceived Vulnerability and Locus of Control* (Aim 3 Hypothesis 7)

To explore whether the correlation was specific to *condom self-efficacy* beliefs or related to more *general self-efficacy,* to *perceived vulnerability* and to *locus of control,* it was further hypothesized that those who felt *generally less self-efficacious* or who had an *external locus of control* might feel more *vulnerable* to HIV, and so might make greater use of *distancing* strategies to alleviate their anxiety (H7).

Tables 25 and 26, show the correlations relevant to the first two steps of the mediation analyses. Table 25 provides the correlations relevant to the first step. The finding of a negative correlation between *condom self-efficacy* and *stigma* was replicated, but there was no significant correlation between *stigma* and either *general self-efficacy* or *locus of control*.

Table 25: Correlations between *distancing* and *Self-efficacies, Perceived Vulnerability* variables *and Locus of Control*

	Origin of HIV	Blaming Out-groups	Stigma
Locus of Control	.07	-.22**	.09
Condom self-efficacy	-.03	.25***	-.31***
Generalised self-efficacy	.13*	.13*	-.05

Note: *p<.05. **p<.01. ***p<.001

Table 26 shows the correlations between the *self-efficacy* variables, *locus of control* and *perceived vulnerability* (step 2 of the mediation analysis). *Locus of control* had the expected relationship with *condom self-efficacy* (higher external *locus of control* significantly associated with lower *condom self-efficacy*) but not with *general self-efficacy*. Conversely, *perceived vulnerability* had the expected relationship with *General self-efficacy* but, the association with *condom self-efficacy,* though significant, was in the opposite direction.

Table 26: Correlations between *Perceived Vulnerability, Locus of Control* and *Self-efficacies* variables

	Locus of Control	Perceived Vulnerability
Condom self-efficacy	-.19**	-.25**
Generalised self-efficacy	-.03	-.14*

Note: *p<.05. **p<.01. ***p<.001

Though *locus of control* had the expected relationship with *condom self-efficacy* the relationship between *condom self-efficacy* and *general self-efficacy* were not significantly correlated ($r = .04$, $p=.563$). The third step of the mediation analysis and the confirmatory test were therefore not conducted.

Thus, the association between reduced *condom self-efficacy beliefs* and greater *distancing* from Burkholder et al. (1999) and from the first study were replicated. However, the results of this study suggest that, the relationships were not related to more *general self-efficacy* and to *locus of control*.

8.8.1 Discussion

As with the first quantitative study, the results of this study provided evidence to support the social representation hypothesis that greater distancing is associated with a decreased sense of threat which, in turn, leads to reduced safety in sexual intentions and behaviour. *Stigma* was associated with decrease in *intended safe sex* (Table 18); this was mediated by a reduced sense of vulnerability (Table 19). Thus, stigma showed the relationships predicted by the social representation hypothesis: Higher stigmatizing attitudes were associated with reduced safety in intended sexual behaviour through the mediation of reduced perceptions of vulnerability. In the previous study, it was argued that these relationships are

most likely to occur if participants are asked about their intended sexual behaviour rather than previous sexual behaviour. The results gave some support to this conjecture.

Belief about the *origins of HIV/AIDS* was significantly associated with lower intended safe sexual behaviours as predicted by social representations hypothesis but, not safety in actual sexual behaviour. Again, higher *blaming of out-group* was associated with greater intention to practise safe sex, though no association was found with reported likelihood of safety in actual sexual practices.

The BJW hypotheses was put forward as an explanation of the association between distancing and reduced sexual safety found in the first study. It received no support, in that, although BJW was correlated with reduced *perceived vulnerability;* and *stigma* and with *intended safe sex* (which were, in turn, correlated), the correlation with the latter was relatively small and was observed only for *BJW Other* and not for *BJW Self* (Table 22). The mediation hypothesis was also not supported for *intended safe sex*. Even though the significant association between *BJW* and reduced *perceived vulnerability* supported the observation by Lambert et al. (1999) (Table 20), BJW was not associated with reduced safety in sexual behaviour (Hafer et al., 2001) (Table 21). So according to this study, the relationships amongst *stigma, perceived vulnerability* and *intended safe sex* are not influenced by BJW as others observed.

The use of standardized measures (the *locus of control* scale and the g*eneralised self efficacy* scale) also failed to shed any light on the correlation (observed in the first study) between reduced condom self-efficacy beliefs and greater distancing. The *locus of control* scale showed poor internal consistency, and the g*eneralised self efficacy* scale had no significant associations with any of the other variables except for *perceived vulnerability;* in which those with greater g*eneralised self efficacy* showed reduced sense of vulnerability (Table 26). To explain the correlation with *condom self-efficacy,* the hypothesis was suggested that less confidence in one's ability to engage in sexual behaviour safely leads to a reduced sense of *vulnerability*, which in turn leads to greater use of *distancing* strategies in order to alleviate the anxiety. This hypothesis received some support in the first study. It was again supported by the results of the present study: *perceived vulnerability* had a significant meditational effect on the relationship between *condom self-efficacy* and *stigma*.

The association of the *distancing* variables: *Origins of HIV, blaming out-groups* and *stigma* were all similar to those obtained in the first study. *Stigma* appeared to be the most robust of the measures of distancing used in these two studies. *Origins of HIV* had significant association was only with reduced *perceived vulnerability*. *Blaming out-groups* had associations with some of variables that were in the same direction to that observed in the first study. These three measures of *distancing* were correlated in this second study (there were some

significant correlations amongst them), supporting the validity of the measures and/or the validity of the underlying concept of distancing.

Chapter Nine

9.0 Introduction

In the initial studies of this research it was found that distancing attitudes were associated with greater safety in sexual intentions and behaviour, and that this was mediated by a reduced sense of risk. Further studies were conducted with the aim of shedding further light on this relationship between blame and sexual safety. Specifically, it looked at the relationship in the context of some broader, more established psychological constructs – specifically, generalised self-efficacy, locus of control and just world beliefs. To corroborate the findings from the previous Ghana studies another questionnaire study was conducted in the UK among students from a University located in an urban area in the UK for the replication of the second questionnaire study conducted in Ghana (Study 5). Another aim was to consider similarities and differences between the two cultures, and to reflect on the practical significance of the findings in the Ghanaian context. This chapter reports the findings of the study.

9.1 Aims and Hypotheses of Study

1. Again, this study re-tested the social representation hypothesis that distancing leads to a decreased sense of threat which, in turn, leads to reduced safety in sexual intentions and behaviour (Hypothesis 1) with a different sample.

2. The second aim was to investigate whether the relationships amongst stigma, perceived vulnerability and intended safe sex remained when the influence of BJW was taken into account. The hypotheses re-tested:

- H2: BJW will be associated with increased use of distancing strategies.

- H3: BJW will be associated with reduced safety in sexual behaviour (Hafer et. al., 2001).

- H4: BJW will be associated with reduced perceived vulnerability (Lambert et. al., 1999).

- H5: The links between stigma, perceived vulnerability and intended sexual behaviour will reduce when BJW is taken into account.

3. The third aim was to retest the association between reduced *condom self-efficacy beliefs* and greater *distancing* (observed in the first and second study) with another sample. It was also to explore whether the correlation was specific to *condom self-efficacy belief*s or related to more *general self-efficacy*. The hypotheses:

- H6: Greater distancing representations will be associated with less safe sexual intentions/behaviour, and this effect will be mediated by reduced self-efficacy beliefs.

- H7: It was hypothesized that those who feel generally less self-efficacious will feel more vulnerable to HIV, and so will make greater use of distancing strategies to lessen their anxiety.

9.2 Methodology

9.2.1 Measures

The measures for the study were similar to those used in the Ghana study (see Table 27) but excluded the *Locus of Control* measure because this had proven unhelpful in Study 5. The questions about blaming out-groups were also altered to reflect the groups mentioned in the UK studies 1 and 2. Appendix H contains a copy of the questionnaires, items used for the study and the scoring guide.

Table 27 Questionnaires for Study 6

(i) Psychological distancing variables:
o *Origins of HIV* (6 items)
o *Blaming out-groups* (6 items)
o *Stigma* (30 items)

(ii) Appraisal of the threat from HIV/AIDS:
o *Perceived Vulnerability* (8 items)
o *Emotional threat (4 items)*
o *Perceived Severity of HIV/AIDS (4 items)*
(iii) Condom Use:
Negative outcome expectancies (18 items)
Condom self-efficacy (8 items)
(iv) Actual and intended sexual practice
o *Ever had sex* (1 item)
o *Intended safe sex* (16 items)
o *Actual safe sex* (10 items)
(v) *Belief in a Just World Scale* ([BJW], 16 items], Rubin & Paplau, 1975; Lerner & Millar, 1978)
(vi) *Generalized Self Efficacy Scale* ([GSE] 10 items, Schwarzer & Jerusalem, 1995)

Scoring of Measures

As done with the previous questions, answers to the first four questionnaire items (*distancing, perceived vulnerability, condom self-efficacy, and actual and intended sexual practice variables*) were scored with a 0 or a 1. Higher scores were associated with higher exhibition of the behaviour being measured. The

justification for the use of the values a1 and a 0 were the same as for the previous study. The remaining two were scored as prescribed by their authors (Rubin & Paplau, 1975; Jerusalem & Schwarzer, 1979).

9.2.2 Recruitment of Participants

As discussed in the previous study, with three predictors, power analysis indicates that with three predictors, 61 participants will provide adequate power to detect a moderate effect size in relation to a beta coefficient (power = 0.9; alpha = 0.05; minimum effect size of 0.25) (Cohen, 1988; Howell, 2002).

Consequently, 221 students were recruited online to participate in the study. The aim was to recruit a similar number of participants as for Study 5. The students were recruited through the School of Psychology's research participation scheme. This is a scheme whereby psychology students are required to participate in 10 hours of research per academic semester during the first and second years of the university education. Credits are given for participating in the scheme. It is recognised that this was not a representative sample of university students. For example, compared to the general student population, a considerably higher proportion of psychology students are female.

9.2.3 Procedure

The participants completed the questionnaires online on campus (on the university's intranet).

9.2.4 Participants

Two hundred and twenty-one students (23 males and 198 females) participated in the study. The mean age of the participants was 19.50 years (SD=1.33), and a range of 7. The youngest were 18 years and the oldest 25 years. Whites constituted 80%, Indians 12%, Pakistanis 7%, Blacks 1.4% and others 10%. Christians constituted 48% of them, Muslims 4% and other religions 48%. The fathers of 45% of the sample were managers/professionals, 16% did their own Businesses, 8% were technicians, 4% were service workers, and the remaining 29% did other jobs. Two percent (5) did not provide information about their fathers' jobs. For their mothers, 23% were manager/professionals, 15% service workers, 12% clerical work, 14% housewives and the remaining 30% did other jobs. Two persons did not answer to the question. Five percent (10) of them knew someone who was HIV positive. One person also did not provide information about her knowledge about someone with HIV. Eighty four percent (*N = 182*) of them reported ever having sex and five declined to answer this question.

9.3 Data Analysis

Data preparation and analysis was the same as for the study that was replicated. The data was analysed using SPSS 16.0 for Windows (SPSS Inc., 2008). As with the Ghana studies, the data was prepared for analysis using the methods suggested by Tabachnik and Fidell (2001). Two of the measures (*stigma* and *general self-efficacy*) had two and three outliers which had values that were markedly higher than the rest. These were adjusted to the next highest score plus one, as done in the previous study. Also, some subscale scores (*perceived severity*, *condom self efficacy* and *intended safe sex*) distributions departed significantly from normal (see Appendix H). Reverse score transformations improved the distribution significantly on these negatively skewed scores.

9.4 Results

9.4.1 Descriptive Data

Table 28 below presents the means, standards deviations, the range and Cronbach's alpha for each of the scales. The Cronbach's alpha for some of the subscales suggested weak internal reliability (Kline, 2000).

Table 28 Descriptive Statistics

No.	Scales & Subscales	N	Mean	Std. Deviation	Alpha	Number missing in analysis	
						No.	Percent
1	**Distancing variables:**						
	Origin of HIV	221	1.25	0.96	0.31	0	0
	Blaming Out-groups	219	3.14	1.61	0.67	2	.9
	Stigma	221	4.93	3.16	0.73	0	0
2	**Threat appraisal variables:**						
	Vulnerability Reversed	215	7.65	1.62	0.46	6	2.7
	Perceived Severity		3.61	1.42	0.35		
	Emotional Threat (Worry)	214	1.91	1.23	0.56	7	3.2
3	**Condoms use outcome variable:**						
	Negative Outcome Expectancies of Condom Use	221	3.95	2.47	0.64	0	0
4	**Self – Efficacy**						

	Beliefs variables:						
	Condom Self Efficacy Beliefs	218	6.44	1.71	0.68	3	1.4
	General Self Efficacy	221	28.51	3.35	0.81	0	0
5	**Sexual behaviour variables:**						
	Actual Safe Sex	216	4.56	2.21	0.69	5	2.3
	Safe Sex Intention	219	7.23	2.34	0.61	2	0.9
6	**Beliefs in a Just World variables:**						
	BJW for Self	221	5.81	1.99	0.75	0	0
	BJW for Others	221	3.14	2.48	0.81	0	0

9.4.2 Missing Data

Information about the percentage of participants providing complete data sets on each variable is provided in Table 28 above. For the questionnaire, the total number of possible responses was 221 (participants) x 154 (items) = 34,034. Of these, only 25 values (0.07%) were missing. The rate of missing data was relatively low and so no data was substituted. Pairwise deletion was used to account for that data still treated as missing.

9.4.3 Correlations

9.4.3.1 Re-test of social representation hypothesis (Hypothesis 1)

To establish whether there is an effect to be mediated, the relationship between the *distancing* and *sexual behaviour* variables were first determined. Table 29 provides the results of the correlations between the variables. Only *origin of HIV* correlated with *actual safe sex* variable in the predicted direction. Though *Stigma* and *blaming out-groups* were not significantly correlated with *actual safe sex*; they were in the directions predicted by the social representation hypothesis. Stigma had significant relationship with *intended safe sex* variable but in a direction opposite to prediction.

Table 29: Correlations between *distancing* and *sexual behaviour* variables

	Origin of HIV	Blaming Out-Groups	Stigma
Actual Safe Sex	-.15*	-.06	-.06
Intended Safe Sex	.08	.04	.15*

Note: *p<.05. **p<.01. ***p<.001

Table 30 presents the results of the second step in the mediation analysis that explored the relationship between the predictors and the proposed mediator (the *perceived vulnerability* variable). As found in the previous studies, reduced *perceived vulnerability* was significantly associated with the *distancing* variables,

and in the predicted direction. Thus, greater *distancing* strategies were associated with reduced sense of *vulnerability*. These findings of associations between greater *distancing* strategies and a reduced sense of *vulnerability* supports the second Ghana study.

Table 30: Correlations between *distancing* and *perceived vulnerability* variables

	Origins of HIV	Blaming out-groups	Stigma
Perceived Vulnerability	-.37***	-.34	-.32

Note: *p<.05. **p<.01. ***p<.001

As only the *origin of HIV* variable showed the expected correlation with *actual safe sex* variable, the third step of the mediation analysis was conducted with this variable. Contrary to expectation, the mediation analysis was not significant. Thus the social representation hypothesis was not replicated with this study.

9.4.3.2 Re-test of the role of Belief in a Just World Hypotheses

This idea was put forward to try to explain the relationship between *distancing* and reduced *intended safe sex* observed in the first quantitative Ghana study. However, the hypothesis was not supported in the second Ghana study. Similarly, the relationship did not occur in the present sample (see Tables 31, 32 and 33).

Table 31 shows the correlations between *BJW* and *distancing* variables. *BJW-Other* was significantly correlated with *origin of HIV* and did have approximate significance with *stigma,* in the predicted directions. Thus, those who believe that other people generally get their just deserts in life had higher scores on beliefs about HIV origins. As in the previous study, *BJW-Self* variables was not significantly correlated with any of the *distancing* variables.

Table 31: Correlations between *BJW* and *distancing* variables

	BJW Self	BJW Other
Stigma	-.04	.13*
Origins of HIV	.06	.23**
Blaming out-groups	-.09	.05

Note: *p<.05. **p<.01. ***p<.001

So the hypothesis that BJW will be associated with increased use of distancing strategies (evidence reviewed in the introduction of Chapter 9 that those with high BJW are more blaming in their attitudes towards others who fall victim to misfortune) was partially supported.

The third hypothesis that BJW will be associated with reduced safety in sexual behaviour was supported for *BJW-Self* on *intended safe sex* but not *actual safe sex.* Table 32 shows the correlations between *BJW* variables and *sexual behaviour* variables. *BJW-Other* on *intended safe sex* was not significant but in the predicted

directions. In the previous study, there were no associations between *BJW* and reduced safety in sexual behaviours.

Table 32: Correlations between BJW and *sexual behaviours*

	BJW Self	BJW Other
Actual Safe Sex	-.10	.02
Intended safe sex	-.23**	-02

Note: *p<.05. **p<.01. ***p<.001

The fourth hypothesis that *BJW* will be associated with reduced *perceived vulnerability* (Lambert et al., 1999) was not supported in this study. Although the correlations were in the predicted directions, they were not significant (Table 33). The third step of the mediation analysis that sought to establish the links between stigma, perceived vulnerability and sexual behaviour variables and BJW was therefore not conducted. Thus, even though the Lambert et al. was supported in the previous study, there was no evidence for it in this study.

Table 33: Correlations between *BJW* and *Perceived Vulnerability*

	BJW Self	BJW Other
Perceived Vulnerability	-.04	-.12

Note: *p<.05. **p<.01. ***p<.001

As with the previous study, this study that attempted to establish the association between distancing, perceived vulnerability and Just World Belief found mixed results.

9.4.3.3 Re-test of Distancing and Self-efficacy hypotheses (Hypotheses 6 and 7)

The hypothesis was that, there will be association between reduced *condom self-efficacy* beliefs and greater *distancing* and these associations are mediated by an increased *perceived vulnerability*. The correlations relevant to the first two steps of the mediation analysis are shown in Tables 34 and 35. Table 34 provides the correlations relevant to the first step. Consistent with previous studies, there was some evidence of an association in the direction predicted by the hypothesis: greater *distancing* attitudes were associated with reduced *condom self-efficacy* beliefs. The association between *generalised self-efficacy* and *stigma was also significant*.

Table 34: Correlations between *distancing* and self-efficacy variables

	Origins of HIV	Blaming out-groups	Stigma
Condom self-efficacy	-.13*	-.02	-25***
Generalised self-efficacy	.05	.08	-.12*

Note: *p<.05. **p<.01. ***p<.001

Table 35 shows the correlations between the *self-efficacy* variables and the *perceived vulnerability* (step 2 of the mediation analysis). There was a negative association between *perceived vulnerability* and *condom self-efficacy* but no association between *perceived vulnerability and generalised self-efficacy;* which was not predicted. Furthermore, *general self-efficacy* showed no correlation with *condom self-efficacy* (r = .05; p=.437). Therefore, the mediation analysis was not pursued.

Table 35: Correlations between *Perceived Vulnerability* and self-efficacy variables

	Condom self-efficacy	Generalised self-efficacy
Perceived Vulnerability	-.12*	.06

*p<.05; **p<.01; ***p<.001

These finding of negative correlation between *condom self-efficacy* and *stigma* provides evidence to support the observations in the first and second Ghana studies and that of Burkholder et al. (1999). The mediation roles of *perceived vulnerability* and *general self-efficacy* were also not replicated in this study.

9.5.0 Discussion

Contrary to the findings of the previous quantitative studies, the results of this study provided no support to the social representation hypothesis that distancing is associated with a decreased sense of vulnerability which, in turn, lead to reduced safety in sexual behaviour. *Stigmatizing attitudes* (a construct of distancing strategies) were associated with greater intentions to practise safe sex which is not predicted by the hypothesis. However, as found by other theorists (e.g. Goodwin et al., 2003; Goodwin et al., 2004 a, b; Joffe, 1996, Joffe & Bettega, 2003), beliefs about the *origins of HIV* (also construct of distancing strategies) were associated with safety in actual sexual behaviours as predicted by the social representation hypothesis. Although *blaming out-groups* were not significantly associated with actual and intended safe sex, they were in the directions predicted by the social representation hypothesis. Furthermore, greater *distancing* strategies were associated with a reduced sense of *vulnerability* as assumed by the theory (e.g. Goodwin et al., 2003; Joffe & Bettega, 2003).

The BJW hypothesis put forward to try to explain the relationship between *distancing* and unsafe *sexual intentions* observed in the two quantitative Ghana studies, did not occur in the present sample (see Table 31), and so the hypothesis could not be properly tested. *BJW for Other* was the only variable associated with greater beliefs *origins of HIV* – which partly supports the *distancing - BJW* hypothesis. The association with reduced safety in sexual behaviour was supported

for *BJW for Self* on *intended safe sex* but not *actual safe sex*. In the previous study, although correlations were in the predicted direction, they were not significant. Furthermore, the suggestion by Lambert et al. (1999) that BJW was associated with reduced perceived vulnerability was supported in the previous study; there was no evidence for it in this study. Thus, the reports by previous research reviewed in the introduction to the previous chapter that suggested that BJW is associated with all three of these variables (stigma, perceived vulnerability and intended safe sex) was not replicated.

The previous study had provided some support for the suggestion that the association between reduced condom self-efficacy beliefs and greater distancing (observed in the first and second study) may be mediated by an increased *perceived vulnerability*. In this study, reduced self-efficacy was again associated with greater *stigma*, and unlike the two previous studies, it was not related to *perceived vulnerability*, and so the hypothesis was not supported.

This study produced many similar results to the previous two, although there were some major differences. The main differences were the positive relationship between *stigma* and *intended safe sex* and the lack of a relationship between *BJW* and *perceived vulnerability*. One possible reason could be that, compared to the Ghana samples, the UK sample had much lower levels of negative attitudes towards condom. Also compared to the UK samples, the Ghana sample had much higher stigmatizing attitudes. A lot more of the UK sample were also older and

were from a different culture and a lot more had had sex. These floor effects may have affected the analyses with these variables in them.

Chapter Ten

10.0 Descriptive Study

10.1 Introduction

The descriptive data from the studies revealed some interesting findings. This chapter reports the findings from the descriptive data of the three quantitative studies. Another aim was to further collate the data to consider similarities and differences between the two cultures, and to reflect on the practical significance of the findings in the Ghanaian context. The findings are discussed according to the main five topics: Beliefs about the origins of HIV/AIDS, blaming and stigma; threat appraisals; beliefs about condoms and sexual behaviours; and intended and actual sexual behaviour. In each section is a table of the percentage that endorsed that question from each of the three samples used in the three quantitative studies. There were marked similarities between the two Ghana studies. Comparing the Ghana studies with the UK one, there were some similarities but also differences. The variations in the responses between the samples are discussed.

10.2 Distancing beliefs and attitudes to HIV/AIDS

10.2.1 Beliefs about origin of HIV

Table 36 below presents the percentages of participants that endorsed specific statements about the origin and spread of HIV. The results suggest the persistence of unsupported ideas about the origins of HIV. For example, the majority in the

two Ghana studies believed "HIV/AIDS first started because of people having sex with infected animals". Comparing the findings in the two Ghana studies, the results are very similar with the exception that, in the second study, more participants endorsed the statement that HIV originated in America or Europe. Whereas the Ghana samples endorsed the suggestion that HIV originated in America or Europe and associated the cause of HIV with a gamut of abnormal practices, including aberrant sexual behaviours, the majority of the UK sample endorsed the suggestion that HIV originated in Africa but rejected the other statements. These key patterns of thinking that linked the origins of HIV to groups to which one does not belong are consistent with what social representations theorists have suggested (e.g. Goodwin et al., 2004: Joffe, 1996).

Table 36 Beliefs about Origin of HIV

No.	Questions	TRUE Responses in Percentage		
		Ghana Study 1	Ghana Study 2	UK Study 2
1	HIV/AIDS first started because of people having sex with infected animals	59	67	17
2	HIV/AIDS probably began in Europe or America	66	76	25
3	HIV/AIDS probably began in Africa	45	35	52
4	HIV/AIDS started because people abandoned their traditional values and way of life	58	65	11

5	HIV/AIDS first started because of homosexuals having sex with each other	27	26	18

10.2.2 Stigmatizing Beliefs about HIV/AIDS

Stigmatizing attitudes were found to be widespread particularly among the Ghana participants, which was not the case with the second UK sample (Table 37). For example, 48% and 31% of the Ghana sample would not buy fruits and vegetables from someone they know to have HIV. There were substantial levels of endorsement for punitive and restrictive practices towards those with the disease – e.g. about 30% endorsed the idea that people with HIV should be put in isolation. Social rejection of those with the disease was also fairly high in the sample – e.g. 46% reported that they would not feel comfortable in their company. These stigmatizing attitudes about HIV/AIDS were very similar to what has been reported by many studies from Ghana (e.g. Akwara, Fosu, Govindasamy, Alayón & Hyslop, 2005; Fayorsey, 2002). Fayorsey (2002) reported that 49% thought that a child with HIV should be either sacked or not allowed in the school. However, higher percentages of these stigmatizing behaviours were reported by UNICEF (2006). UNICEF reported that in Ghana 77% of women and 72% of men indicated unwillingness to buy fruits and vegetables from someone with HIV; and 51% of women and 45% of men did not want an HIV positive teacher to teach.

However, the great majority of the Ghana and UK samples associated HIV/AIDS with shame, guilt and blame. For example, more than 80% in the three samples said they would feel ashamed if they contracted the disease; and about one quarter said that they would keep it a secret from their family and friends. Conversely, about 80% of the samples reported willingness to care for a family member with HIV/AIDS.

Table 37 Stigmatizing Beliefs about HIV/AIDS

No.	Questions	TRUE Responses in Percentage		
		Ghana Study 1	Ghana Study 2	UK Study 2
1	People who catch HIV because of unprotected sex deserve what they get	63	73	27
2	People with HIV bring shame on their family	81	79	8
3	By and large, people with HIV/AIDS have only themselves to blame	45	51	12
4	I would be willing to care for someone in my family who had AIDS	80	76	85
5	I would buy fruit and vegetables from someone, even if I knew they had HIV	48	31	23
6	I won't/don't feel comfortable in the company of people with HIV/AIDS	46	46	15
7	I wouldn't make friends with someone who I knew to have HIV	33	30	10

8	If someone in my family had HIV, I would let them use the same cups, spoons and plates as me	46	50	74
9	If a friend caught HIV, I would still want to spend time with them and to go out with them	45	27	95
10	I would feel ashamed if I caught HIV	87	83	84
11	If I tested positive for HIV, I would keep it a secret from my family and friends	37	24	31
12	I would not tell my sexual partner if I caught HIV	23	19	4
13	People with HIV should be ashamed of themselves	41	44	13
14	Workers should be told the names of any of their work colleagues who have HIV	44	52	7
15	All sex workers and homosexuals should be made to take regular HIV tests	94	91	57
16	Foreigners should be made to take a HIV test before they are allowed into Ghana	88	85	34
17	People who test positive for HIV should be made to declare this when they go for a job interview	65	74	25
18	People with HIV should not be allowed to work as teachers	18	19	7
19	People with HIV should be isolated so that they cannot spread the disease	30	31	29
20	Employers should have the right to dismiss any employee who tests positive for HIV	17	15	4

21	People with HIV should not be allowed to work with children	45	37	12
22	Students at a school or college should be given the names of any other students or teachers who have HIV	35	42	7
23	If someone in my house got HIV, I would want them to move out to another house	24	24	8
24	I would be upset if someone with HIV/AIDS came to live next door to me	25	24	2
25	I would be willing to share a meal with someone who has AIDS	48	53	37
26	I feel angry when I think of people with HIV/AIDS	20	18	11

10.2.3 Those Blamed for the Spread of HIV/AIDS

Again, the Ghana participants were generally more blaming of other people for the spread of HIV/AIDS compared to the UK group. However, a very high percentage from all study samples blamed prostitutes, people with multiple partners and those who knowingly spread the virus as well as anyone who practises unsafe sex. The UK samples were more blaming of injection drug users compared to the Ghana samples (Table 38). However, consistent with their tendency to have less stigmatizing and blaming attitudes towards the disease, the UK sample (69%) strongly endorsed the idea that anyone who practises unsafe sex can catch the disease and that it is not confined to certain out-groups. Paradoxically, though the

first Ghana samples had high stigmatizing and blaming attitudes towards people with the disease, 71% of the first Ghana sample also endorsed the idea that anyone who practises unsafe sex can catch the disease.

Table 18 Those Blaming for HIV/AIDS

No.	Question	YES Responses in Percentage		
		Ghana Study 1	Ghana Study 2	UK Study 2
	Blamed Out-Groups			
1	Prostitutes and other sex workers	94	90	66
2	People who have many sexual partners	94	88	59
3	People who engage in unnatural sexual practices	---	81	33
4	People who can't control their sexual urges	67	---	---
5	Immoral people	79	83	22
6	People who keep it a secret that they have HIV	71	88	---
7	People who have unsafe sex even though they know they have HIV	---	---	96
8	Drug users	49	64	---
9	People who inject drugs		---	74
10	Gay men / Homosexuals	65	83	38
11	Immigrants and asylum seekers	---	---	18
12	Migrants who have come to Ghana from neighboring countries	62	70	---
13	Foreigners living in Ghana	47	57	---

14	Poor people	26	28	---
15	Illiterate and uneducated people	45	51	---
16	People who haven't been educated about HIV/AIDS	54	---	46
17	Young men	37	61	21
18	Young women	40	63	17
19	Anyone who practises unsafe sex	71	---	69
20	Government / people in authority UK	---	---	34

Note: --- question not asked.

10.3 Threat Appraisals

The mean scores for threat appraisal variables (perceived vulnerability, perceived severity and emotional threat/worry) for the three samples were quite similar (UK sample = 4.41, Ghana Study 1 = 3.76 and Ghana Study 2 = 4.29), suggesting similar levels of threats. However, the answers to some of the questions indicated that, for the great majority of the UK sample, HIV/AIDS though many perceived HIV/AIDS as a serious disease ('perceived severity'), and some do worry about it ('emotional threat') and a considerable percentage had the tendency to feel that the actual risk is quite low ('perceived vulnerability') (Table 39). Even though UK sample had the tendency to have less stigmatizing and blaming attitudes towards the disease (69% endorsed the idea that anyone who practises unsafe sex can catch the disease and that it is not confined to certain out-groups); the majority (87%) of

the sample also strongly endorsed the idea that in the UK, HIV/AIDS mainly affect people who are not part of the mainstream society. 90% also believed people like them are reasonably safe from HIV/AIDS, even if we have sex without a condom. The level of threat perceptions among the UK sample was comparatively higher than what Johnson et al. (2001) found among men and women aged 16–44 years resident in Britain. They found that only 5% of men and 3% of women perceived themselves as at risk of HIV/AIDS.

By contrast the Ghana samples were more worried about HIV, believed the consequences are severe and had higher personal sense of vulnerability (Table 39). Ironically, many (53 vs. 57) at the same time believed that one can have a long and happy life even if they got HIV. The findings of the Ghana studies were consistent with what has been reported quite recently by a number of researchers. For example, Holmes et al. (2008) found that 48% of the women attending antenatal clinics in one of the regional capital towns of Ghana felt that they were at high risk of HIV and that 94% were worried about infecting their babies with HIV. These observations of high threat appraisals were quite different from what pertained in the 1990s and early 2000s (e.g. Anarfi, 1993; Anarfi & Antwi, 1995; Tweedie & Witte, 2000). Tweedie and Witte in the 1998 Ghana Youth Reproductive Health Survey (GYRHS) reported that among those who had ever had sex, 76% of the females and 71% of the males indicated that they were not likely to contract HIV/AIDS. Fayorsey (2002) found that only 7.3% of students perceived themselves as susceptible to HIV. UNICEF (2003) also reported that not more than

three in ten young men and women in Ghana considered themselves at some risk of HIV/AIDS. This suggests that the personal sense of threat of HIV/AIDS among Ghanaians has relatively increased. These notwithstanding, many still believe HIV is mostly confined to certain sexually defined groups (Table 38). This is also consistent with the report by Aheto and Gbesemete (2005) that many single men and married men and women in Ghana perceived that females living with HIV/AIDS as evidence of prostitution.

Table 39 Threat Appraisals

No.	Question	Responses in Percentage		
		Ghana Study 1	Ghana Study 2	UK Study 2
	Perceived Vulnerability	True	True	True
1	HIV/AIDS in Ghana is really only a problem for those people on the edges of society - like prostitutes and drug addicts	38	34	---
2	HIV/AIDS in the U.K. is really only a problem for those people on the edges of society - like prostitutes and drug addicts	---	---	87
3	People like me are reasonably safe from HIV/AIDS, even if we have sex without a condom	45	25	90
4	I feel reasonably safe from HIV/AIDS because not that many people I know	41	42	56

	have got it			
5	Compared to most other people my age, I am at less risk of getting HIV from unprotected sex	31	36	68
6	HIV/AIDS doesn't happen to people like me	25	23	73
7	If a person in the U.K. doesn't practise safe sex, they are more likely than not to catch HIV within 5 years	---	---	41
8	Even if you have sex without a condom, your chances of catching HIV/AIDS in Ghana are not that high	20	23	---
9	Even if you have sex without a condom, your chances of catching HIV/AIDS in UK are not that high	---	---	73
10	I think the risks of catching HIV/AIDS are exaggerated	38	41	84
11	It's possible that one day I will get infected with HIV	28	26	21
12	If a person in Ghana doesn't practise safe sex, they are more likely than not to catch HIV within 5 years	63	62	---
13	The rate of new cases of HIV/AIDS infection is going down in Ghana	38	45	---
14	The rate of new cases of HIV/AIDS infection is going down in the U.K.	---	---	83
	Emotional Threat (Worry)	**True**	**True**	**True**

1	I often think about the importance of protecting myself against HIV/AIDS	87	84	56
2	I worry a lot about catching HIV	56	55	18
3	If I had unsafe sex, I would be very worried afterwards that I might be infected with HIV/AIDS	83	85	35
4	The adverts about HIV/AIDS have made me worried about getting infected	45	47	---
5	Public information campaigns about HIV/AIDS have made me worried about getting infected.	---	---	53
6	People worry too much about catching HIV	56	66	24
	Perceived Severity	**True**	**True**	**True**
1	Once a person gets HIV, they tend to lose everything that's important in life - job, family, friends etc.	79	70	28
2	If I got HIV, my life would be ruined	82	74	74
3	AIDS usually means a long and painful death	79	73	58
4	You can have a long and happy life even if you have HIV	53	57	39

Note: --- question not asked.

10.4 Sexual Behaviours

Table 40 reports the rates of actual behaviours related to safe/unsafe sex. There were significant rates of unsafe sex across all three samples. Fidelity to a single partner was low among the participants, with around half reporting casual sex (i.e. sex with someone other than a steady partner) and a quarter reporting three or more partners in the previous 12 months. Trust in sexual partners was also high, with less than a third of the samples reporting that they always used a condom with their steady partners and less than a quarter reporting that they had asked about their partner's sexual history. Keeping supplies of condoms at home and carrying them in case of sex was substantially higher amongst the UK sample, as was their reported use of condoms for casual sex. The findings of the Ghana studies were similar to what had been reported earlier (e.g. Afenyadu & Goparaju, 2003; Amuyunzu-Nyamongo, Biddlecom, Ouedraogo & Woog, 2005; Anarfi & Antwi, 1997; Glover et al., 2003; Karim et al., 2003; Tweedie & Witte, 2000). All these researchers reported low condom use among young people in Ghana. For example, Afenyadu and Goparaju (2003) found that the majority of the youth use condoms when they are not sure about the fidelity of their sexual partners or may occasionally use it for purposes of contraception. In the U.K., Johnson et al. (2001) reported increased risky sexual behaviour among both men and women but, the men took risk with condom.

Table 40 Actual Sexual Behaviours

No.	Question	YES Responses in Percentage		
		Ghana Study 1	Ghana Study 2	UK Study 2
	Actual Safe Sex			
1	Have you ever had sex with someone other than a steady girlfriend/boyfriend?	49	41	48
2	Have you ever had sex with someone you didn't know very well or had only just met?	33	32	37
3	Have you had three or more sexual partners in the past 12 months?	27	20	24
4	Have you ever had sex with a prostitute or other sex worker?	10	11	10
5	Have you always used a condom when having sex with your steady girlfriend / boyfriend?	39	32	28
6	Have you always used a condom when having casual sex (i.e. sex that is not with a steady girl/boyfriend)?	65	55	76
7	Have you ever taken condoms with you to situations like parties or being alone with your partner - just in case you had unplanned sex?	41	39	53
8	Have you ever asked another person, before having sex with them, whether they might have HIV or other sexual diseases?	19	25	26
9	Have you ever kept a supply of condoms at home?	40	22	81

10.5 Intentions to Practise Safe Sex

Table 41 presents the results about sexual intentions. Considering the responses to questions about outcome expectancies (Table 40) and responses to the questions about intentions about future sexual behaviour (Table 41), it would seem that there was a preference in the Ghana samples for protecting themselves against infection by means of celibacy and careful choice of sexual partners– rather than by means of condoms or making enquiries about a partner's sexual history. For example, whereas nearly 80% intended to be celibate until marriage, less than 60% would consider keeping a supply of condoms at home. The intentions to abstain from sex are consistent with what Hoffman, Norgbe and Asante (2008) found among the majority of secondary students in Ghana. In contrast, the intention to avoid sex before marriage was very low amongst the UK sample, and there was a greater willingness to keep condoms at home and to use them for casual sex.

Table 41 Intentions to Practices Safe Sex

No.	Question	Yes Responses in Percentage		
		Ghana Study 1	Ghana Study 2	UK Study 2
1	Do you intend to avoid sex in the future until you are married?	79	77	8
2	In the future, do you intend to avoid having casual sex (i.e. sex with someone other than a steady girlfriend/boyfriend)?	79	72	54
3	In the future, do you intend to avoid having sex with someone you don't know	81	78	73

	very well or have only just met?			
4	In the future, do you intend to avoid having sex with many different partners?	87	82	76
5	In the future, do you intend to avoid having sex with a prostitute or other sex worker?	87	81	96
6	In the future, do you intend always to use a condom when having sex with your steady girlfriend/ boyfriend until you want to have children?	61	66	42
7	In the future, do you intend always to use a condom if you were to have casual sex (i.e. sex with someone other than a steady girl/boyfriend)?	83	81	96
8	In the future, do you intend to take condoms with you to situations like parties or being alone with your partner - just in case you have unplanned sex?	68	65	37
9	In the future, do you intend to ask any new sexual partner, before having sex with them, whether they might have HIV or other sexual diseases?	73	69	47
10	In the future, would you consider keeping a supply of condoms at home?	59	58	88

Evidence suggests people's intentions do not appear to be that great an influence on their actual behaviour in a sexual context (Bryan et al., 2002; Sheeran et al., 1999; Schwarzer, 2001; Webb & Sheeran, 2006). Moreover, as pointed out in a

number of studies (e.g. Aggleton, 1996; Kelly et al., 2001; Parker, 2004), motivations for sex are complicated, unclear and may not be thought through in advance. Therefore, if these intentions do not influence the actual safer sexual behaviours of the young people in Ghana, and they rely on questionable means to assess their potential sexual partners then their safety from HIV/AIDS cannot be assured.

10.6 Outcome Expectancies Associated with Condom Use

Table 42 indicates some of the negative outcome expectancies associated with condom use. There were a lot of barriers to the purchasing, storage and use of condoms amongst the Ghana samples. For example, well over two thirds reported that they would feel ashamed about buying a condom, and well over a third reported that using condoms would cause trouble in a relationship. Compared to the UK sample, a minority felt that condoms would not protect them against contracting HIV, and there was a strong feeling that they don't always work effectively. Again, these negative outcome expectancies associated with condom use amongst the Ghana samples again reflect similar findings in many studies (e.g. Aheto & Gbesemete, 2005; Amuyunzu-Nyamongo et al., 2005; Anarfi & Antwi, 1997: Glover et al., 2003). Aheto and Gbesemete reported that overwhelming majority of single men and women in Ghana did not endorse condom use because they claim it reduces sexual pleasure.

By contrast, the negative outcome expectancies associated with condom were generally much lower among the UK participants. The only items on which the percentages were similar between the Ghana and UK samples were related to the idea that condoms interfere with sexual pleasure (items 14, 16 and 21).

Table 42 Outcome Expectations about Condom Use

No.	Questions	TRUE Responses in Percentage		
		Ghana Study 1	Ghana Study 2	UK Study 2
	Negative Outcome Expectations			
1	Buying condom is embarrassing	64	65	45
2	My girlfriend/boyfriend would not like me to keep a supply of condoms at home	43	46	87
3	Condoms reduce the pleasure you get from sex	61	54	54
4	It is difficult for me to get enough money to buy condoms	13	19	13
5	Using condoms during sex is embarrassing	29	29	6
6	Not using a condom shows how much you love and trust your girlfriend/boyfriend	31	32	12
7	If I asked to use a condom, my girlfriend/ boyfriend will think I don't trust him.	37	36	10
8	If I kept a supply of condoms at home, I would worry that someone would	75	79	45

	find them			
14	Stopping sex to put on a condom spoils the mood	74	60	59
15	I would feel less of a man/woman if I used a condom during sex	34	28	3
16	Condoms are messy and unpleasant to use	44	41	31
17	If I wanted to use a condom, my girlfriend/ boyfriend would think I'd been sleeping around	37	36	6
18	It's difficult to start talking about using a condom when you are having sex with someone	54	64	34
19	When you don't use a condom, it shows that your girlfriend/boyfriend is very special to you	31	33	13
20	I would feel ashamed of buying condoms	65	71	14
21	Condoms get in the way of a good sex	48	45	33
22	Asking to use a condom causes bad feeling in a relationship	41	43	3
23	If I asked to use a condom, the other person would think I've got HIV or some other sexual disease	40	44	3
	Positive Outcome Expectations	**True**	**True**	**True**
1	Using condoms will protect me against HIV	64	63	93
2	Condoms don't give you good protection against HIV because they don't always work properly	41	---	---

3	There's not much point in using condoms because they don't always work	49	---	---

Note: --- question not asked.

10.7 Condom Self Efficacy

Table 43 indicates some of the findings from the questions about condom self efficacy. The items were prefaced by the question “Might you go ahead and have sex without a condom”. The majority of the samples in the three studies were confident about their ability to overcome obstacles to safe sex if the situations arose. However, there was a tendency in the UK sample to report higher self-efficacy beliefs. For example, only 10% of the UK sample said they would go ahead and have sex if the other person refused to use a condom, whereas the corresponding figures for the Ghana samples were close to a quarter. Consistently, Adi and Alexander (1999), Adu-Mireku (2003), Afenyadu and Goparaju (2003) and Awusabo et al. (2004) found that Ghanaian youths who are confident in their ability to use condoms are more likely to practise safe sex. Karim et al. (2003) found that among unmarried Ghanaian youth, greater self-efficacy with regards to condom use was strongly associated with consistent condom use and condom use at first sex among males. It should however, be noted that those who have confidence in their ability to overcome obstacles to safe sex were more likely to have used condoms.

Table 43 Self-Efficacy in Condom Use

No.	Question	YES Responses in Percentage		
		Ghana Study 1	Ghana Study 2	UK Study 2
1	If you didn't have enough money to buy a condom?	25	22	12
2	If you found it embarrassing or shameful to buy condoms?	32	36	22
3	If you didn't have a condom with you when the opportunity for sex arose?	40	37	19
4	If you were in the middle of sex and had to stop for the condom to be put on	45	42	45
5	If it was difficult or embarrassing to talk with the other person about using a condom?	25	28	20
6	If you thought, the other person might get upset or annoyed, or might refuse to have sex, if you asked to use a condom?	31	28	17
7	If the other person made fun of you for wanting to use a condom?	24	24	12
8	If the other person refused to use a condom?	24	22	10

10.8 Discussion

The Ghana studies and the U.K. study produced some similar results as well as some major differences. The Ghana samples showed more distancing attitudes but blaming attitudes were quite similar in the Ghana and UK samples. The consequences of HIV/AIDS tended to be viewed differently by the Ghana and the UK samples. The Ghana samples perceived HIV/AIDS as serious and worried more about it. The great majority of the Ghana samples also intended to remain celibate until marriage, but the percentage of the U.K. sample intending this was very low. The U.K. sample on the other hand had much more favourable attitudes towards condoms, and lower negative outcome expectancies about their use.

Demographic differences may explain some of the differences on the measured variables. The UK sample differed from the Ghana samples not only in terms of culture, but also they were an older sample and there was a much higher proportion of females. For example, the fact that they were older may explain the higher rate of the sample that had actually had sex. This, in turn, might explain some of the other differences. For example, different attitudes towards condoms might be due to more experience with them. Also, age and gender were both correlated with *stigma* in the Ghana sample, with older people and females reporting fewer stigmatizing attitudes. So the reduced stigma in the UK sample may be a reflection of their age and the greater proportion of females. The differences in threat appraisal could also be attributed to the different rates of HIV/AIDS risks (UNAIDS, 2008).

The findings of this study and the previous ones further suggest that for the cognitive approach to safe sex in the context of HIV, belief about HIV/AIDS and personal moral value should be given some amount of prominence. In the pilot study (Study 2) and first quantitative Ghana survey (Study 4) personal moral views were positively associated with safer sexual behaviours. The construct also survived as significant predictors of actual and intended safe sex in the backward stepwise regression of all measured variables in Study 4.

Chapter Eleven

11.0 General Discussion

11.1 The Social Representation Hypothesis

The main aim of this study was to provide a rigorous empirical test of the Social Representation Hypothesis. The claim of social representations approach to HIV/AIDS is that distancing oneself from the disease generally allows the dominant group to feel relatively safe from the disease, and so they do not take sufficient steps to protect themselves (e.g. Joffe, 1999; Marková & Far, 1995). A number of studies have offered evidence in support of this hypothesis (e.g. Goodwin et al., 2004; Joffe, 1996, 1999; Joffe & Bettega, 2003; Marková & Far, 1995). Most of these studies found that their sample distanced themselves from HIV/AIDS, had lower risk perceptions and reported higher risk-taking behaviours and so concluded that distancing oneself from the disease generally allows them to feel relatively safe from the disease and so took sexual risks.

The findings of this study are consistent with the Social Representations Hypothesis that distancing oneself from HIV/AIDS generally, allows one to feel relatively safe from the disease and so take sexual risks. That is, the fact that lower risk perceptions and reported higher risk-taking occurred in a sample that distanced themselves from HIV/AIDS is provide sufficient evidence that one led to the other.

The result of the three quantitative studies in earlier chapters provided support for the Social Representation Hypothesis. The Ghana studies suggest there were some associations between greater distancing (mainly the *stigma* variable) and unsafe sexual behaviour/intentions; these were partially mediated by a reduced sense of vulnerability to the disease. The UK study also provided some support for the hypothesis. There were some associations between greater distancing (beliefs about the *origins of HIV* variable) and unsafe sexual behaviours. In fact, all the three studies also presented evidence for a reduced sense of risk associated with reduced safety in sexual behaviours. The studies have therefore provided some evidence for lower risk perception and reported higher risk-taking occurring in people that distanced themselves from HIV/AIDS.

However, higher *blaming of out-groups/foreign influence* (a variable of *distancing* strategies) was associated with reported likelihood of safety in actual sexual practices and a greater intention to practise safe sex in all the three quantitative studies. Thus, those who were more blaming of others for the spread of HIV/AIDS were also more likely to act safely by protecting themselves from HIV infection. This observation contradicts the social representations hypothesis. Social representations hypothesis claims that *blaming out-group* leads to *distancing* of oneself from the disease (Lear, 1995; Joffe, 1996, 1999 & Joffe & Bettega, 2003, Goodwin et, al, 2004).

11.2 Explaining the association between lower distancing and greater sense of vulnerability

It is possible that those who know they are at greater risk (and also those who feel a greater emotional threat) may employ distancing strategies as a way of inducing lower sense of vulnerability. Thus, the distancing strategies may serve to blunt the sense of threat by allowing them to view the disease as something that only happens to others and only to people who deserve it.

This is what the social representation hypothesis posits in the early phase of the process – that societies, faced with threat, distance themselves from the threat in order to diminish their anxiety (Joffe, 1999; Marková & Far, 1995). The hypothesis then goes on to postulate that this distancing results in a reduced sense of vulnerability, which, in turn, leads to less cautious sexual behaviour. The three studies provided the evidence to support this second phase of the process as well – greater distancing was associated with a reduced sense of vulnerability.

11.3 Explaining the association between greater distancing and less safe sex

It was suggested that the association between greater distancing and unsafe sexual practices may, in part, be mediated by this raised sense of threat caused by engagement in unsafe sexual practices. Those who have (or know they are likely to have) a riskier sexual lifestyle may correctly judge that they are at greater risk. Because of this increased sense of risk, they may then use more distancing

strategies in order to reduce their apprehension. This idea suggests that less safe sex leads to greater distancing. This is similar to the idea put forward by Gerrard et al. (1996) who suggested that adolescents are aware of the risks associated with their behaviour but modify the way they think about the risks (e.g., convincing oneself that "everyone is doing it") in order to continue participating in risky behaviours. The mediation analysis of the data from the two quantitative Ghana studies (Chapters 6 and 7) provided evidence of a significant mediating role for raised threat in this context.

The second and third quantitative studies (Chapters 9 and 10) explored another potential explanation of the association between greater distancing and less safe sexual intentions, namely that both are the product of a stronger belief in a just world. BJW research (though not in the context of HIV) has found that those with a high BJW are more blaming in their attitudes towards others who fall victim to misfortune. In the context of HIV, those with a high BJW have also been reported to have less intention and practice less safe sex (e.g. Lambert et al., 1999). Hafer et al. (2001) speculated that this second link may be mediated by a decreased appraisal of personal risk: Those who believe that people generally get their just desserts feel less vulnerable to contracting HIV/AIDS on the grounds that they have not done anything to deserve it, and so take fewer steps to protect themselves. The results of the second and third quantitative studies did not support the idea that the association between greater distancing and less safe sexual intentions could be due to the fact that both are the product of BJW. BJW was not consistently

associated with sexual intentions or behaviour in either study. Only the third quantitative study (Chapter 10) offered some support to the speculation of Hafer et al.

11.4 Perceived Vulnerability and Sexual Outcomes

The results also suggested that a sense of vulnerability had a more complex relationship with sexual outcome than that posited by the Social Representation Hypothesis: *Emotional threat* and *perceived severity* generally had a positive association with safer sexual outcome, but *perceived vulnerability* had negative associations. This mirrors earlier findings. Some researchers have reported a greater sense of threat to be associated with less safe sexual outcome (Akwara et al., 2003; Burkholder et al., 1999; Iriyama et al., 2007; Schwarzer, 1992), but others have reported it to be associated with a safer sexual outcome (Adih & Alexander, 1999; Adu-Mireku, 2003; Awusabo et al., 2004; Tenkorang et al., 2008). One possible explanation of this inconsistency may be that cognitive risk appraisal may have been based on a realistic cognitive appraisal of the risk posed by one's past, current and intended sexual lifestyle: Those who have (or view themselves as likely to have in the future) a riskier lifestyle may correctly judge themselves to be more at risk of contracting the disease. This claim supports what Akwara et al. (2003) found among both women and men in Kenya – namely, that those who had engaged in risky sex perceived their risk of HIV infection as great. Fayorsey (2002) reported similar findings among students in Ghana, as did Mulatu

et al. (2000) in Ethiopia, Maharaj (2006) among South Africans and Maswanya et al. (1999) among Tanzanians.

By contrast, heightened emotional concern about contracting the disease may be associated with more caution in one's sexual lifestyle as suggested by the Health Beliefs Model (Becker & Joseph, 1988; Becker, 1974) and Protection Motivation Theory (Rogers, 1975, 1983). Thus, fear arousal may have direct effect on condom use intention and so increase an individual's motivation to act in a health protective manner (Boer & Mashamba, 2005, 2007; Floyd, Prentice-Dunn & Rogers, 2000; Ho, 2000; Milne, Sheeran & Orbell., 2000; Prentice-Dunn & Rogers, 1986; Umeh, 2002, 2004; Witte & Allen, 2000; Van der Velde & Van der Plight, 1991). Ho (2000) found that a threat appraisal index explained 16% of the variance in the HIV/AIDS protective behaviours whereas the total variance explained by fear and protection motivation theory were 58%, and 76% respectively; and so concluded that the creation of fear is a necessary precursor for HIV/AIDS protective behaviour. Witte and Allen (2000) found across studies that fear was the most reliable influence on intentions, and that, the stronger the fear aroused, the more persuasive messages were. However, they cautioned that, alongside high levels of threat, persuaders should also promote high levels of self-efficacy. Those who feel at risk but helpless may not change their behaviour.

11.5 Explaining the association between greater distancing and condom self-efficacy beliefs

In all three quantitative studies (Chapters 7, 8 and 9), there was a significant correlation between *stigma* and reduced *condom self-efficacy* beliefs. This replicated the findings of Burkholder et al. (1999). The hypothesis was that those who felt less self-efficacious in relation to condom use may have judged themselves to be more vulnerable to contracting the disease and, as a result, made greater use of distancing strategies. Again, this implies a mediating role for *perceived vulnerability*: The association between reduced self-efficacy beliefs and greater distancing may have been mediated by a sense of greater risk. Results from the three studies did not provide supportive evidence for this hypothesis. Furthermore, the hypothesis that those who felt generally less self-efficacious or who had an external locus of control might feel more vulnerable to HIV, and so might make greater use of distancing strategies to alleviate their anxiety was not supported. In the second quantitative study, Locus of Control had an expected relationship with condom self-efficacy (higher external locus of control significantly associated with lower condom self-efficacy) but not with general self-efficacy. In fact, the relationship between condom self-efficacy and general self-efficacy was not significant in the second and third studies. The correlation may therefore be specific to condom self-efficacy beliefs and <u>not</u> related to more general self-efficacy, to belief in a just world, and to locus of control.

11.6 Comparing the effects of the TPB, perceived threat and distancing variables

In the first quantitative study (Chapter 7), a direct comparison of the effects of distancing, HBM and TPB constructs on actual/intended safe sex indicated that the TPB variables had a stronger association with the four outcomes (*actual* and *intended sexual behaviour* and *actual* and *intended condom use*) than the *distancing* variables. However, when the *distancing* variables and the TPB variables were included alongside all other variables in the backward stepwise prediction of the wider variables of *actual* and *intended sexual behaviour*, *stigma* and *blaming out-groups* survived as significant predictors for some of the outcomes, but *subjective norms* and *negative outcome expectancies* did not. This is consistent with assertion made by Karim et al. (2003) that sexual activity and condom use were not associated with peer behaviours or community connectedness among Ghanaians.

In the backward stepwise regression analysis that included all measured variables, the model accounted for 17.7% of the variance in *actual safe sex* and 31.4% of the variance in *intended safe sex*. The effects of HBM were similar to this but, that of TPB was relatively higher. Most of the variances were accounted for by stigma and condom self-efficacy beliefs. The predictive powers of the models are comparable to what had been found in previous studies conducted in African settings. Studies conducted in African settings that focused on condom use have explained between

17% and 67% of the variance in intention (e.g. Boer & Mashamba, 2005; Giles et al. (2005). For example, Bosompra found that TPB and HBM successfully predicted intended safe sex among university students in Ghana. Although these moderate to high variances were explained in intentions, the variance explained in actual behaviours was quite low (between 6 and 14%).

Also in Western Countries the TPB has similarly been found to account for over 39% and 27% of the variance in intention and behaviour, respectively (Albarracın et al., 2004). These findings are inconsistent with reports that cognitive behaviour theories cannot sufficiently predict intended and actual safe sex among African samples (Aggleton, 1996; Kelly et al., 2004). The difference may lie in the samples used. For example, Hounton et al. (2005) used a very rural sample and so found no support for the model.

Nevertheless, a relatively large amount of the variance in the sexual behaviour outcomes remained unexplained by the TPB, HBM, Social Representations Theory and demographic variables.

Also, most of the studies in an African context including the ones from Ghana (reviewed in the literature review section - Chapter 2) found subjective norm was the most important determinant of actual safe sexual practices and safe sex intentions (e.g. Boer & Mashamba, 2005; Bosompra, 2001; Fekadu & Kraft, 2001, 2002; Giles et al., 2005). Boer and Mashamba (2005) found the normative

component of the TPB was the most important in determining condom use among adolescents in South Africa. In these studies, attitude towards safe sex (mainly condom use) did not contribute much to the predictions of actual and intended safe sex in most of the studies as found in this study. However, *condom self efficacy,* found to be important determinant of safer sexual intentions and behaviour in this study, had mixed results in the other studies conducted in Africa. Thus, attitudes towards safe sex and the perceptions of other people's opinions about safe sex and the social pressure to comply with the safer sexual behaviours were not as important to the participants of this study as found in other previous studies.

11.6.1 A role for individual moral views

The first quantitative study also explored the hypothesis that individual moral views about sexual behaviours would be significantly related to actual and intended sexual behaviours. The results suggested that individual moral views may merit further investigation in the context of the cognitive model of safe sex behaviour, as another variable over and above those proposed by the TPB and the HBM. The expected correlation between personal moral views and intended safe sex occurred; and the personal moral views variable also survived the backward regression analysis as making a significant unique contribution to the variance in sexual intentions.

11.7 Beliefs and Attitudes towards HIV and Sexual Issues amongst Young People in Ghana and the U. K.

11.7.1 Social Representations about the origins and spread of HIV

There was some tendency to attribute responsibility for the disease to the 'other' in both the Ghana samples and UK samples. This was evident in the focus groups and in the quantitative studies. For example, the item most frequently endorsed in the first quantitative study in Ghana was "HIV probably began in America or Europe"; whereas in the UK quantitative study, the most frequently endorsed item was "HIV probably began in Africa". However, the tendency was not as strong as often claimed by those working within the social representation approach. For example, in both quantitative Ghana studies, 'young men' and 'young women' were blamed by the majority for the spread of the disease.

11.7.2 Stigma

Stigma appears to be an important factor in the issue of HIV/AIDS in Ghana. Consistent with earlier findings in Ghana (Akwara et al., 2005; Fayorsey, 2002; GAC, 2003; UNICEF, 2006), stigmatizing attitudes and social rejection of those with the disease was very high. Consequently many said they would keep it a secret if they tested positive. Other studies in Ghana support this observation. For example, Ulasi et al. (2008) found that participants in their study with higher education were more likely to favour policies denying employment to people living with HIV/AIDS (PLWHA).

11.7.3 Threat Appraisals

For the great majority of the Ghana samples, HIV/AIDS threat has increased since the earlier reported studies (e.g. Aheto & Gbesemete, 2005; Awusabo-Asare et al., 2004; Fayorsey, 2002; Tweedie & Witte, 2000; UNICEF, 2003). Even though many feel threatened by HIV/AIDS, many also believed it is confined to certain out-groups. The older participants from Ghana had lower risk perceptions but worried more about the disease.

11.7.4 Intentions to practise safe sex

Consistent with what Hoffman et al. (2008) found among students of one district of Ghana, the findings of the present Ghana studies indicate a high intended commitment to celibacy before marriage. Many also reported their intentions to practice safe sex and had relatively high beliefs in their ability to overcome obstacles to condom use. However, intentions to engage in preparatory behaviours relating to condom use (e.g. keeping a supply at home), intended use of condoms and actual condom use were lower and there were high rates of negative outcome expectancies related to their use. This is consistent with the results of Fayorsey (2002) who found that 86% of the sexually active Ghanaian students in her sample who claimed to have changed their sexual behaviours (that is, they have deferred sex, assumed secondary virginity or reverted to use of condoms) because of their knowledge about HIV/AIDS, only 40% had used a condom in their last sexual

encounter. Clearly, the obstacles to condom use amongst young people in Ghana need to be addressed.

One particular issue that needs addressing is the complex interplay between relationship issues and condom use. Many participants felt that the use of condoms introduced an element of mistrust into the relationship, and that their use had the potential to damage relationships. There was also a marked tendency amongst some to comply with the wishes of their sexual partner and social groups, and not to use condoms.

11.7.5 Demographic influences

For the Ghana samples, there were no significant differences between the younger and the older participants in their distancing attitudes. However, the younger participants were safer in their actual sexual behaviours and intentions to practice safe sex. Also the females were safer in their actual sexual behaviour compared to males. This is inconsistent with what many others have found among Ghanaians (Adu-Mireku, 2003; Amuyunzu-Nyamongo et al., 2005; Akwara et al., 2003, 2005; Awusabo et al., 2004 Glover et al.. 2003; Karim et al., 2003). These studies reported that among Ghanaian youth, males are safer in their risk taking behaviours compared to females.

11.8 Differences between the Ghana and UK samples

Although the UK study produced some similar results to the Ghana studies, there were some major differences. The Ghana samples showed more distancing attitudes but, blaming attitudes were similar in the Ghana and UK samples. For example, 71% and 88% of the two Ghana samples and 96% of the UK sample blamed those who knowingly spread the virus. The consequences of HIV/AIDS tended to be viewed differently by the Ghana and the UK samples. Whereas the Ghana samples perceived HIV/AIDS as serious and worried about it, the UK samples perceived it as less serious and were also less worried about it; probably because of the different risk rates in the two countries (UNAIDS, 2008).

There were some differences in terms of sexual intentions and attitudes towards condom use. The great majority of the Ghana sample intended to remain celibate until marriage, but the percentage of the U.K. sample intending this was very low. The U.K. sample also had much more favourable attitudes towards condoms, and lower negative outcome expectancies about their use.

These differences could be attributed to cultural differences. It should also be noted that the UK sample were older, a lot more of this sample had had sex, and most were females, and these differences may also have been relevant. For example, the different attitudes towards condoms could be due to more experience with them by the UK sample.

11.9.1 Limitations of the qualitative studies

There is an issue about how freely those in the focus groups may have discussed issues around HIV and sexual matters. Rather than everyday talk, the data are focus group interactions in which a moderator provided topic-based questions and responses, designed to elicit the participants' views and opinions. This setting may be considered different from everyday settings and activities in which people ordinarily talk about the issues of HIV/AIDS and safer sexual behaviours. Because the discussions were adult-moderated, it may be that the moderator's presence influenced what was said.

11.9.2 Limitations of the quantitative studies

Measurement

Several of the scores of measures used deviated from the expected distribution and so had to be transformed. This probably was due to the use of forced choice question format for the measures. Forced-choice format can hide response variance and multi-dimensionality of the responses given by study participants. The forced choice format used to offset response burden and acquiescence bias may have resulted in score distributions that deviated from the normal distribution. Some of the participants had high scores on some subscales used for the study. With some

of the participants having high scores on some subscales, the high scores resulted in distributions with positive skews. Most of the scores on subscales had low variability around the relatively high average scores. Use of Likert scales is suggested as an alternative for future research.

Several of the measures also lacked internal consistency also probably due to the type of question format used for the measures. The threat appraisal variables were less than satisfactory and the origins of HIV variable was particularly poor. This raised issues about the measurement of the social representation variables. They were measured by summing the endorsement of a range of items, but this could have masked particularly strong feelings about just one of these items. For example, on the origins of HIV variable, someone in the Ghana samples could have had very strong feelings about the disease being American in origin (and therefore have been quite strong in their blame of the 'other'), but not endorsed any of the other items – in which case they would have scored low on this variable. Similarly, with the blaming out-groups variable, one would not necessarily expect a tendency to blame prostitutes to be very highly correlated with a tendency to blame immigrants. This indicates the need for more work on the conceptualisation and measurement of these constructs. It also may explain why blaming out-groups had associations with some of the other variables that were in opposite directions in the different studies, and the fact that origins of HIV had very few significant correlations with other variables.

Another issue was that the three distancing variables were themselves not highly correlated with one another. This raises concerns about the validity of the measures and/or the validity of the underlying concept of distancing.

Most of the measures used in these studies were specifically designed for the study, using the data provided by the qualitative phases. This was to try to ensure that the measures were culturally and socially appropriate. However, the use of measures specifically designed for a study brings problems. The measures lack any previous standardization, and are of unknown reliability and validity. To try to address this, the second and third studies used established measures of known reliability and validity (the Generalised Self-Efficacy Scale and the Locus of Control). However, the Locus of Control measure in the second Ghana study had low internal consistency (and so was not used in the third study), and the GSE scale did not correlate particularly highly with any of the other variables. This highlighted the problem with using standardized scales – that they have typically been designed and standardized for use in Western societies, and their reliability and validity in other contexts may be questionable.

Sampling

The samples were drawn from better educated and relatively more affluent strata of society. In part, this was because it was thought that distancing may be more evident amongst such samples, who are definitely within the social 'in-groups'. However, this limits the generalizability of the findings. It may be, for example,

that the Social Representation Hypothesis may not have some validity amongst other social groups. One aspect of the sampling strategy that may have placed a particular limit on generalizability was the fact that relatively few of the Ghana samples were sexually active. However, it should be noted that when the analyses for the Social Representation Hypothesis were run for different groups within the first Ghana sample (e.g. those who had had sex vs. those who had not), there was still no support for it.

Drawing the samples from a more homogeneous population may also have been responsible for the limited variability seen on some of the variables. This limited variability would have limited the possibility of much stronger significant relationships emerging from the data.

Design

The design was cross-sectional. This meant that it was difficult to validate whether the intentions to behave in a safe/unsafe way reported by participants resulted in the intended behaviour in reality. It also meant that the measure of actual sexual behaviour was based on the participants' reports of what had happened in the past. Their attitudes and social representations at the time of assessment may have been consequences of their behaviour in the past. The correlational design of the study also, of course, makes it impossible to draw any firm conclusions about causality.

Analysis

There was quite a significant amount of missing data. Measures were taken to fill in some of what was missing. The validity of this was verified by running the analyses on a data set where this filling in had been done and on a data set that used only those who had provided complete data sets, and finding no major differences in the outcome of the analyses. Nevertheless, the failure to complete the questionnaire may have been due to factors that may have distorted the findings.

11.10 Research Implications

Taken together, the TPB, the threat appraisal and distancing variables, and the demographic variables explained fairly large amounts of the variance in sexual outcomes (in the first Ghana study, 31.4% of intended safe sex and 17.7% of actual safe sex). Other studies from Africa have reported similar effects for these kinds of variables (e.g. Bosompra, 2001). This suggests that cognitive models, such as the TPB and the HBM, are sufficient to explain sexual behaviour in the context of HIV. It also provides evidence against the criticisms of those who have challenged these models (e.g. Aggleton, 1996; Kelly et al., 2004 Gebhardt et al., 2006).

The study also highlighted the need for further research to improve the measurement of the constructs involved. The measurement of the variables of the social representation approach needs particular attention. Work in this area is likely

to face the problem of ensuring that the measures are culturally appropriate, but at the same time of proven reliability and validity for the cultural setting in which they are applied.

The research suggested the value of further investigating personal moral views in conjunction with the other constructs of the cognitive models. A moral stance against unsafe sexual practices was associated with a greater intention to practise safer sex. Conversely, this moral stance was associated with a greater likelihood of having actually engaged in these practices in the past. Cognitive models such as the theory of planned behaviour were developed in the context of behaviours that had little, if any, moral connotations. Sexual behaviours have many moral connotations and the models may need to be expanded to take account of this.

The study found that generally, those who distance themselves from HIV/AIDS tend to be less safe in their sexual behaviours. Those who felt less self-efficacious in relation to condom use may have judged themselves to be more vulnerable to contracting the disease and, as a result, made greater use of distancing strategies. These people distancing themselves from the disease in order to feel safe from the disease. Consequently, higher self efficacy in relation to condom use could result in sufficient steps to protect oneself and hence lower feeling of vulnerability. Accordingly, future experimental study could be designed to build participants' confidence in their ability to use condoms and then measure distancing strategies

(e.g. stigma) to see if their use reduces. It should be expected that, as condom self efficacy increases, distancing strategies should reduce.

11.11 Practical Implications

Stigma has been implicated as a major obstacle in the fight against HIV/AIDS (Kalichman et al., 2006; Ogden & Nyblade, 2005; Parker & Aggleton, 2002). It appears to be a major reason why people do not get tested and do not inform others about their status once tested. This, in turn, helps the disease spread. Stigma also causes significant distress to those with HIV and their carers. For example, in a Ghanaian study that explored the experiences of family members and friends of AIDS patients, Mwinituo and Mill (2006) found that these caregivers go to great extent to not only "hide" their patients but also their care giving activities, which result in the social isolation of both patients and the caregivers. Many also do not share their family member's diagnosis with extended family members. As a result, they receive limited support from the extended family.

The results of the present study also highlighted the relevance of stigma:

- Stigma was high amongst the relatively affluent and well educated Ghana samples, and this is an issue that clearly needs to be addressed by Ghanaian society.

- Stigma was also consistently associated with reduced safety in sexual practices. Attempts have been made to identify an explanation of this link in the study. The link raises the possibility that stigma may contribute to a lack of precaution in sexual behaviour (as well as the other problems described in the previous paragraph). If this is the case, it provides a further reason for targeting stigma in the intervention campaigns.

- The results of the study were consistent with the idea that stigma may be based in part, from a lack of confidence about dealing with sexual matters. In the two Ghana studies, there was evidence to support the hypothesis that those who felt less self-efficacious in relation to condom use may have judged themselves to be more vulnerable to contracting the disease and, as a result, become more stigmatizing in their attitudes. This link between stigma and a lack of confidence suggests a possible way in which stigma needs to be tackled in society.

- The study found low safe sex intention and actual safe sex, which could be attributed to very high rates of negative beliefs and attitudes associated with condom use. These associations have also been reported by many studies amongst young people in Ghana. Since egalitarian (open and democratic) discussion about HIV/AIDS has been found to have protective effects on safer sex particularly consistency in the use of condom among Ghanaian youth, it follows that HIV/AIDS prevention education and campaigns should address

these negative attitudes by promoting open dialogues between families and with partners concerning HIV/AIDS, sexual issues and condom use.

- Lower safe sex intentions and actual safe sex could be attributed to reduced confidence in one's ability to successfully use condoms. The results from the Ghana studies supported the hypothesis that self-efficacy beliefs are associated with intended and actual safe sex. Campaigns against HIV/AIDS should also address condom self-efficacy. Accordingly, increasing dialogues about HIV and sexual issues including condom use may promote self-efficacy to use condom and subsequently safer sex for both genders.

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APPENDICES

Consent Form for Parent - Study 1

CONSENT FORM A.1

Thesis Title: The HIV/AIDS Phenomenon: Social Representation of HIV/AIDS, Safe/Unsafe Sexual Behaviour among Students in Secondary Schools in Ghana

Investigator: Dinah Baah-Odoom, phone XXXXXXXXXXXX;
E-mail [redacted]

Please read and (√) tick each item

- I am the parent/carer for the student named below.
- I have read the information leaflet that explains this study.
- I understand that my child will be asked to discuss HIV/AIDS and the sexual behaviours of young people in a group with other students
- I understand that my child will have the right to withdraw at any stage of the study without explanation.
- I understand any record of contributions made by my child will be destroyed on my request, provided I make this request within 24 hours of them taking part.

Student's name:

Your name:

Signed:

Date:

Consent Form for Pupil - Study 1

CONSENT FORM A.2

Thesis Title: The HIV/AIDS Phenomenon: Social Representation of HIV/AIDS, Safe/Unsafe Sexual Behaviour among Students in Secondary Schools in Ghana

Investigator: Dinah Baah-Odoom, phone XXXXXXXXXXXX;
E-mai [redacted]

Please read and (√) tick each item

- I have read the information leaflet that explains this study.
- I am over 15 years of age.
- I understand that I will be expected to discuss HIV/AIDS and sexual behaviour in a small group with other students
- I understand that I do not have to take part in this study if I do not want to
- I understand that I have the right to withdraw at any stage of the study without explanation.
- I understand that any record of my contribution to the discussions will be destroyed on request, provided I make this request within 24 hours of taking part.

Name:

Signed:

Date:

Appendix D

DEMOGRAPHIC QUESTIONNAIRE

Kindly complete this questionnaire.

Name of School: _____

Name of Class/Form: _____

Age: _____ years

Sex:

[ ] Male [ ] Female

Religion:

[ ] Christian [ ] Muslim [ ] other specify _____

Parents' occupation

Father _____ Mother _____

Do you know anyone personally who has HIV/AIDS? [ ] Yes [ ] No

Appendix D

PHASE 1: QUESTIONNAIRES

Issues to be addressed in the focus groups

Origins and spread of HIV/AIDS

1 Where and how did HIV/AIDS start in the very beginning?
2 Why did it then spread across the world?
3 Why is HIV/AIDS so common in some African countries?
4 What kind of person is most likely to get HIV/AIDS in this country?
5 Who is to blame for the spread of HIV/AIDS in this country?
6 Discussion of the role in the spread of HIV/AIDS played by various "out-groups" (e.g. homosexuals, sex workers, drug addicts)

Perception of risk, and connections between these perceptions and beliefs about origin/spread

1 How many pupils in this school do you think are HIV-positive?
2 Out of one hundred student likes yourselves, how many do you think are likely to get infected over the next five years?

(Group is provided with estimate of how many are likely to get infected)

3. Do you think students like yourselves feel relatively safe from infection?
4. Why do you think students like yourselves feel relatively safe from infection?
5. Do you think some students like yourselves think, "HIV/AIDS is something that happens to other people? It does not happen to people like me"?
6. Do you think some students like yourselves are not as careful about taking precautions because they think that HIV/AIDS is something that happens to other people and not people like themselves?

Appendix D

Safe/unsafe sexual practices

These questions are concerned with any positive social evaluations (e.g. admiration) and with any negative social evaluations (e.g. condemnation) of a range of safe and unsafe sexual practices. The views of male and female adolescents will considered separately, as well as the behaviour of males and females.

What would young men/women of your age generally think of a young man in the school / a young woman in the school of your age who:

1 has never had sex
2 agrees with their girlfriend / boyfriend not to have sex until they are married
3 refuses to have sex with their girlfriend / boyfriend until they are married even though their girlfriend/boyfriend wants to have sex now
4 has sex with their steady girlfriend/boyfriend
5 has sex with several different people over the course of the year
6 has sex with a prostitute, or provides sex in exchange for money, gifts or other favours
7 has sex with someone they don't know well or have only just met
8 insists on using a condom when having sex with a steady partner, perhaps refusing to have sex if one isn't used
9 insists on using a condom when having sex with a casual partner, perhaps refusing to have sex if one isn't used
10 agrees to use a condom when the other person insists, even though they do not want to use it
11 has sex without using a condom
12 refuses to use a condom even though the other person wants to use one
13 carries condoms around with them in case they have sex
14 has a HIV test to check whether they are infected
15 wants to know from a casual sexual partner whether they have had sex with other people
16 wants to know from a steady girlfriend / boyfriend whether they have had sex with other people
17 before they have sex, asks a casual sexual partner if they have had a HIV test or if they have HIV
18 before they have sex, asks a steady girlfriend/boyfriend if they have had a HIV test or if they have HIV

“HIV/AIDS and sexual behaviour, Adolescents views”

Interview Schedule for Focus Groups

1. Thank you all for coming
2. Self Introduction
3. Reason for study
4. Permission to tape conversation
5. Fictitious Names

Ground Rules for Focus Group Discussions

1. Only one person to speak at a time
2. No side conversations
3. Equal and full participation
4. Every idea is acceptable
5. Do not ridiculed or laughed at the opinion of others
6. Do not discuss the HIV status or sexual health of any other specific person
7. Do not discuss the sexual behaviour of any specific person
8. Do not discuss your own sexual behaviour
9. Do not talk about your own HIV status and sexual health
10. You may leave the group if you are uncomfortable or distressed by the conversation

Appendix D

Code no.:_____

HIV/AIDS PROJECT

UNIVERSITY OF BIRMINGHAM

Thank you for agreeing to take part in this research. We hope that a better understanding of young people's attitudes towards HIV/AIDS and towards unsafe sexual practices will help improve public education programmes.

You will be asked some private and sensitive questions. Please answer these honestly. The confidentiality of your answers is guaranteed. We will not keep any record of your name on these questionnaires - SO THERE IS NO WAY THAT YOUR ANSWERS CAN BE TRACED BACK TO YOU.

There is a code number at the top of this questionnaire. If you change your mind and do not want us to use your answers in the research, please contact Dinah Baah-Odoom on [redacted] within 24 hours, give her this code number and she will destroy the questionnaire you have completed.

Please take your time to read the questions carefully, and to give honest answers.

ABOUT YOURSELF

Age: _____ years

Gender: [ ] Male [ ] Female

Ethnicity: [ ] White British [ ] Afro-Caribbean British [ ] British Asian

[ ] Other (please say what) _____

Religion: [ ] Christian [ ] Muslim [ ] Other (please say what) _____

Parents occupation: Father _____ Mother _____

Do you personally know anyone with HIV/AIDS? [ ] Yes [ ] No

ABOUT HIV/AIDS

What kinds of people are more likely to have HIV/AIDS in the U.K.?
[v] Tick all that you think apply.

a. [ ] Drug users who inject themselves
b. [ ] Uneducated people
c. [ ] Prostitutes
d. [ ] People who take part in immoral sexual practices
e. [ ] Anyone who practises unsafe sex
f. [ ] Gay men
g. [ ] Young people
h. [ ] Immigrants and asylum seekers
h. [ ] People who have many sexual partners
i. [ ] Poor people
j. [ ] None of these

Who would you blame for the spread of HIV/AIDS in this country?
[v] Tick all that you think apply.

a. [ ] Drug pushers / people who control and sell illegal drugs
b. [ ] Immigrants and asylum seekers
c. [ ] Government / people in authority
d. [ ] Prostitutes and others in the sex industry
e. [ ] People who take part in immoral sexual practices
f. [ ] People who sleep around / have sex with lots of partners
g. [ ] Young people
h. [ ] People who have unsafe sex even though they know they have HIV/AIDS
i. [ ] Gay men
j. [ ] Ignorant people who don't know about HIV/AIDS
j. [ ] People who have sex in foreign countries and bring it back to the U.K.
k. [ ] Poor people
l. [ ] Ethnic minorities
l. [ ] Anyone who practises unsafe sex
m. [ ] No one

Why do you think HIV/AIDS is so common in some countries in Africa?
[v] Tick all that you think apply.

a. [ ] Lack of education/information about the disease and safe sex

b. [ ] Condoms aren't available or they can't afford condoms

c. [ ] They don't control their sexual behaviour and sleep around more

d. [ ] Poverty and lack of resources

e. [ ] People are less willing to practise safe sex and don't want to use condoms

f. [ ] Can't afford the drugs to control the disease

g. [ ] High birth-rate and so high rate of unprotected sex

h. [ ] Men having more than one wife, or having several sexual partners at the same time

i [ ] Sanitation and standards of hygiene are not as good

Which of these statements do you think are true?
[v] Tick all that you think are true.

a. [ ] HIV/AIDS isn't much of a problem in this country

b. [ ] People worry too much about getting HIV/AIDS

c. [ ] HIV/AIDS is a problem only for people on the margins of society who don't have much going for them

d. [ ] You don't need to take as much precautions now as you used to in this country

e. [ ] Even if I had unsafe sex, I wouldn't be at much risk of catching HIV/AIDS in this country

f. [ ] People like me who know how to protect themselves have nothing to worry about

g. [ ] People like me in the mainstream of society are pretty safe from HIV/AIDS

h. [ ] Only ignorant and poorly educated people get HIV/AIDS

i. [ ] No one has HIV/AIDS in the social groups I mix with, so I am safe

If current trends continue, how many people of your age in the U.K. do you think will get infected with HIV over the next 10 years?
[v] Tick one answer only.

a. [ ] 0.0002% (2 in every 1,000,000)

b. [ ] 0.002% (2 in every 100,000)

c. [ ] 0.02% (2 in every 10,000)

d. [ ] 0.2% (2 in every 1,000)

e. [ ] 2% (2 in every 100)

Compared to 10 years ago, how has the rate of new cases of HIV infection changed in the U.K.?
[v] Tick one answer only.

a. [ ] Fallen by 50%

b. [ ] Fallen by 25%

c. [ ] Stayed about the same

d. [ ] Risen by nearly 200%

e. [ ] Risen by nearly 300%

If you don't practice safe sex, what do you think your chances are of catching HIV over the next 10 years?
[v] Tick one answer only.

a. [ ] 1 in a 100,000

b. [ ] 1 in 10,000

c. [ ] 1 in 1,000

d. [ ] 1 in 100

e. [ ] 1 in 10

ABOUT YOUR SEXUAL PRACTICES

These questions are about sex where the participants were willing partners. Please do not include instances in which sex was forced. 'Sex' in the questions means vaginal, oral or anal penetration. Casual sex is sex with someone who is not a steady girlfriend/boyfriend.

Have you ever had sex?
[ ] Yes [ ]No.
(If 'No', please go the questions in the next section, "About your attitudes to sex")

Have you ever had sex with someone other than a steady girlfriend/boyfriend?
[ ] Yes [ ] No

Have you ever had sex with someone you didn't know very well or had only just met?
[ ] Yes [ ] No

Have you had three or more sexual partners in the past 12 months?
[ ] Yes [ ] No

Have you ever had sex with a prostitute or other sex worker?
[ ] Yes [ ] No

Have you always used a condom when having sex with your steady girlfriend / boyfriend?
[ ] Yes [ ] No [ ] Never had sex with steady girlfriend / boyfriend

Have you always used a condom when having casual sex?
[ ] Yes [ ] No [ ] Never had casual sex

Have you ever had sex with someone who refused to use a condom?
[ ] Yes [ ] No

Do you ever carry condoms around with you in case you have unplanned sex?
[ ] Yes [ ] No

Have you ever asked a casual sex partner, before having sex with them, whether s/he has, or has been tested for, sexually-transmitted diseases?
[ ] Yes [ ] No [ ] Never had casual sex

Before having sex with your steady girlfriend/boyfriend, did you ask whether s/he has, or has been tested for, sexually-transmitted diseases?
[ ] Yes [ ] No [ ] Never had a steady girlfriend / boyfriend

ABOUT YOUR ATTITUDES TO SEX

In these questions, we are interested in your attitudes towards different sexual practices. We want to know whether your attitude to the practice is generally positive (you feel it's a good thing) or generally negative (you feel it's a bad thing). Please tick either generally good or generally bad for each question - do not tick both. We have given you some examples of why people might feel the practice is good or bad.

What do you think about a boy who carries condoms around with him just in case he wants to have sex?

[ ] Generally good (e.g. sensible, responsible)

[ ] Generally bad (e.g. a player, a pimp, likely to cheat on his partner)

What do you think about a girl who carries condoms around with her just in case she wants to have sex?

[ ] Generally good (e.g. sensible, responsible)

[ ] Generally bad (e.g. on the prowl, a tart, a slut, likely to cheat on her partner, dodgy)

What do you think about a boy who doesn't use condoms when having sex, even when he doesn't know the other person very well?

[ ] Generally good (e.g. tough, macho, sexy, exciting)

[ ] Generally bad (e.g. foolish, stupid, idiot)

What do you think about a girl who doesn't use condoms when having sex, even when she doesn't know the other person very well?

[ ] Generally good (e.g. sexy, exciting)

[ ] Generally bad (e.g. foolish, stupid, a tart, a slut, not clever)

What do you think about a boy who insists on using a condom even with a steady partner?

[ ] Generally good (e.g. sensible, responsible, has a right to protect self)

[ ] Generally bad (e.g. weird, doesn't trust partner, probably been cheating on partner)

What do you think about a girl who insists on using a condom even with a steady partner?

[ ] Generally good (e.g. sensible, responsible, has a right to protect self, clever)

[ ] Generally bad (e.g. doesn't trust partner, probably been cheating on partner)

What do you think about a boy who has had lots of sexual partners?

[ ] Generally good (e.g. look up to him, someone to be respected, must be good in bed, getting the most out of life, sexy)

[ ] Generally bad (e.g. foolish, a player, a pimp)

What do you think about a girl who has had lots of sexual partners?

[ ] Generally good (e.g. look up to her, someone to be respected, must be good in bed, getting the most out of life, sexy)

[ ] Generally bad (e.g. foolish, a tart, a slut, easy)

What do you think about a boy who has a one-night stand with someone he's only just met or doesn't know very well?

[ ] Generally good (e.g. enjoying life, getting more sexually experienced, making the most of his opportunities)

[ ] Generally bad (e.g. foolish, silly, irresponsible)

What do you think about a girl who has a one-night stand with someone she's only just met or doesn't know very well?

[ ] Generally good (e.g. enjoying life, helps her to be better at sex, making the most of her opportunities)

[ ] Generally bad (e.g. foolish, a tart, a bike)

What do you think about a couple who agree not to have sex until they are married?

[ ] Generally good (e.g. responsible, it's their choice)

[ ] Generally bad (e.g. weird, frigid, boring, one or both are probably gay, you need to have sex before you get married to know if you're right for each other)

What do you think about a boy who is with a steady partner, but, before they have sex for the first time, he wants to know about the other person's sexual history - whether s/he has slept with a lot of other people, whether s/he has (or has been tested for) any sexually-transmitted diseases?

[ ] Generally good (e.g. being sensible, has a right to protect himself)

[ ] Generally bad (e.g. offensive, intrusive, shows he doesn't trust him/her, weird, a total turn-off)

What do you think about a girl who is with a steady partner, but, before they have sex for the first time, she wants to know about the other person's sexual

history - whether she has slept with a lot of other people, whether she has (or has been tested for) any sexually-transmitted diseases?

[ ] Generally good (e.g. being sensible, has a right to protect herself)

[ ] Generally bad (e.g. offensive, intrusive, shows she's got no trust, weird, a total turn-off)

What do you think about a boy on a one night stand who wants to know about the other person's sexual history before they have sex?

[ ] Generally good (e.g. being sensible, has a right to protect himself)

[ ] Generally bad (e.g. offensive, intrusive, shows he doesn't trust him/her, weird, a total turn-off)

What do you think about a girl on a one night stand who wants to know about the other person's sexual history before they have sex?

[ ] Generally good (e.g. being sensible, has a right to protect herself)

[ ] Generally bad (e.g. offensive, intrusive, shows he doesn't trust him/her, weird, a total turn-off)

What do you think about a boy who has had a one-night stand without using a condom who goes to a clinic to get checked for sexually-transmitted diseases (including HIV)?

[ ] Generally good (e.g. sensible, better to be safe than sorry)

[ ] Generally bad (e.g. overreacting, being silly)

What do you think about a girl who has had a one-night stand without using a condom who goes to a clinic to get checked for sexually-transmitted diseases (including HIV)?

[ ] Generally good (e.g. sensible, better to be safe than sorry)

[ ] Generally bad (e.g. overreacting, being silly)

END

Please place your completed questionnaire in the envelope provided and seal the envelope.

Thank you for taking the time to complete the questionnaire.

Code no.:

HIV/AIDS QUESTIONNAIRE

Thank you for agreeing to take part in this research. We hope that a better understanding of young people's attitudes towards HIV/AIDS will help improve public education programmes.

You will be asked some private and sensitive questions. Please answer these honestly. The confidentiality of your answers is guaranteed. We will not keep any record of your name on these questionnaires - SO THERE IS NO WAY THAT YOUR ANSWERS CAN BE TRACED BACK TO YOU.

There is a code number at the top of this questionnaire. If you change your mind and do not want us to use your answers in the research, please contact Dinah Baah-Odoom on [redacted] within 24 hours, give her this code number and she will destroy the questionnaire you have completed.

Please take your time to read the questions carefully, and to give honest answers.

ABOUT YOURSELF

Age: _____ years

Marital status: [ ] single [ ] married

Gender: [ ] Male [ ] Female

Ethnicity: [ ] Akan [ ] Ga and Dangme [ ] Ewe [ ] Dagomba

[ ] Other (please say what) _____

Religion: [ ] Christian [ ] Muslim

[ ] Other (please say what) _____

Parents occupation: Father _____ Mother _____

Do you know anyone personally with HIV/AIDS? [ ] Yes [ ] No

SECTION 1

Please put a tick in the box for your answer.
Please answer all questions.
Please answer honestly. Tell us what you really think. There are no right or wrong answers.
Sometimes you may not be sure about your answer. Just choose the answer that is closest to what you think.

		TRUE	FALSE
1	Buying condoms is embarrassing		
2	My girlfriend/boyfriend would not like me to keep a supply of condoms at home		
3	Using condoms will protect me against HIV		
4	HIV/AIDS first started because of people having sex with infected animals		
5	Condoms reduce the pleasure you get from sex		
6	It is difficult for me to get enough money to buy condoms		
7	Using condoms during sex is embarrassing		
8	Not using a condom shows how much you love and trust your girlfriend/boyfriend		
9	HIV/AIDS probably began in Europe or America		
10	If I asked to use a condom, my girlfriend/boyfriend will think I don't trust her/him		
11	Condoms are a good way of preventing pregnancy		
12	If I kept a supply of condoms at home, I would worry that someone would find them		
13	Condoms don't give you good protection against HIV because they don't always work properly		
14	Stopping sex to put on a condom spoils the mood		
15	HIV/AIDS started because people abandoned their traditional values and way of life		
16	I would feel less of a man/woman if I used a condom during sex		
17	Condoms are messy and unpleasant to use		
18	There's not much point in using condoms because they don't always work		

		TRUE	FALSE
19	HIV/AIDS first started because of homosexuals having sex with each other		
20	If I wanted to use a condom, my girlfriend/ boyfriend would think I'd been sleeping around		
21	HIV/AIDS is God's punishment for the wrong that people have done		
22	It's difficult to start talking about using a condom when you are having sex with someone		
23	When you don't use a condom, it shows that your girlfriend/boyfriend is very special to you		
24	I would feel ashamed buying condoms		
25	Asking to use a condom causes bad feeling in a relationship		
26	HIV/AIDS probably began in Africa		
27	Condoms get in the way of good sex		
28	If I asked to use a condom, the other person would think I've got HIV or some other sexual disease		
29	If I was having sex, my parents would want me to use a condom to protect myself		
	This would influence my decision about whether to use a condom		
31	If I was having sex, my religious leaders would want me to use a condom to protect myself		
	This would influence my decision about whether to use a condom		
33	If I was having sex, my friends would want me to use a condom to protect myself		
	This would influence my decision about whether to use a condom		

SECTION 2

Suppose that you have decided that you want to use condoms when having sex to protect yourself against HIV. Suppose that a situation arises where you could have sex.
In what situations might you go ahead and, despite your decision, have sex without a condom?
Please tick the box for your answer.

Might you go ahead and have sex without a condom:

		Yes	No
35	If you didn't have enough money to buy a condom?		
36	If you found it embarrassing or shameful to buy condoms?		
37	If you didn't have a condom with you when the opportunity for sex arose?		
38	If you were in the middle of sex and had to stop for the condom to be put on		
39	If it was difficult or embarrassing to talk with the other person about using a condom?		
40	If you thought the other person might get upset or annoyed, or might refuse to have sex, if you asked to use a condom?		
41	If the other person made fun of you for wanting to use a condom?		
42	If the other person refused to use a condom?		

Suppose you had an opportunity for sex, but did not have a condom with you and could not get one in time:

Might you go ahead and have sex without a condom:

		Yes	No
43	If the other person told you they did not have HIV/AIDS or any other sexual disease?		
44	If the other person looked healthy and well?		
45	If the other person was a good person from a good family?		
46	If you had known the other person for a long time?		
47	If you knew the other person had not always practised safe sex in the past?		
48	If you thought the other person might have HIV?		

SECTION 3

Please tick the box for your answer

		TRUE	FALSE
49	If someone in my house got HIV, I would want them to move out to another house		
50	Foreigners should be made to take a HIV test before they are allowed into Ghana		
51	I would be upset if someone with HIV/AIDS came to live next door to me		
52	People with HIV should not be allowed to work as teachers		
53	God is angry with those who have AIDS		
54	I would not tell my sexual partner if I caught HIV		
55	I wouldn't make friends with someone who I knew to have HIV		
56	People who test positive for HIV should be made to declare this when they go for a job interview		
57	I would be willing to share a meal with someone who has AIDS		
58	I would feel ashamed if I caught HIV		
59	People with HIV should be isolated so that they cannot spread the disease		
60	I feel angry when I think of people with HIV/AIDS		
61	I don't feel comfortable in the company of people with HIV/AIDS		
62	People who catch HIV are, by and large, selfish and irresponsible		
63	Employers should have the right to dismiss any employee who tests positive for HIV		
64	Leaving aside children, people with AIDS are mostly bad people		
65	People with HIV/AIDS are a bad influence on society		

		TRUE	FALSE
66	If someone in my family had HIV, I would let them use the same cups, spoons and plates as me		
67	People with HIV bring shame on their family		
68	All sex workers and homosexuals should be made to take regular HIV tests		
69	People who catch HIV because of unprotected sex deserve what they get		
70	Workers should be told the names of any of their work colleagues who have HIV		
71	HIV/AIDS is a punishment from God		
72	People with HIV should be ashamed of themselves		
73	If a friend caught HIV, I would still want to spend time with them and to go out with them		
74	People with HIV should not be allowed to work with children		
75	If I tested positive for HIV, I would keep it a secret from my family and friends		
76	I feel pity for people with AIDS		
77	Students at a school or college should be given the names of any other students or teachers who have HIV		
78	By and large, people with HIV/AIDS have only themselves to blame		
79	I would be willing to care for someone in my family who had AIDS		
80	I would buy fruit and vegetables from someone, even if I knew they had HIV		

SECTION 4

These questions are about sex where the participants were willing partners. In answering questions about what you have done, please do not include instances in which sex was forced on you.
'Sex' in the questions means vaginal, oral or anal penetration.
Please put a tick in the box for your answer.
Please be honest in your answers.
Remember - <u>there is no way that your answers can be traced back to you</u>

		Yes	No
81	Have you ever had sex?		
	If you answered 'no' to this question please leave out questions 79-87 and go straight to Question 91 on the next page.		
82	Have you ever had sex with someone other than a steady girlfriend/boyfriend?		
83	Have you ever had sex with someone you didn't know very well or had only just met?		
84	Have you had three or more sexual partners in the past 12 months?		
85	Have you ever had sex with a prostitute or other sex worker?		
86	Have you always used a condom when having sex with your steady girlfriend / boyfriend? *If you have not had sex with a steady girl/boyfriend, please tick here [ ] and leave this question blank*		
87	Have you always used a condom when having casual sex (i.e. sex that is not with a steady girl/boyfriend)? *If you have not had casual sex, please tick here [ ] and leave this question blank*		
88	Have you ever taken condoms with you to situations like parties or being alone with your partner - just in case you had unplanned sex?		
89	Have you ever asked another person, before having sex with them, whether they might have HIV or other sexual diseases?		
90	Have you ever kept a supply of condoms at home?		

		Yes	No
91	Do you intend to avoid sex in the future until you are married?		
92	In the future, do you intend to avoid having casual sex (i.e. sex with someone other than a steady girlfriend/boyfriend)?		
93	In the future, do you intend to avoid having sex with someone you don't know very well or have only just met?		
94	In the future, do you intend to avoid having sex with many different partners?		
95	In the future, do you intend to avoid having sex with a prostitute or other sex worker?		
96	In the future, do you intend always to use a condom when having sex with your steady girlfriend/ boyfriend until you want to have children?		
97	In the future, do you intend always to use a condom if you were to have casual sex (i.e. sex with someone other than a steady girl/boyfriend)?		
98	In the future, do you intend to take condoms with you to situations like parties or being alone with your partner - just in case you have unplanned sex?		
99	In the future, do you intend to ask any new sexual partner, before having sex with them, whether they might have HIV or other sexual diseases?		
100	In the future, would you consider keeping a supply of condoms at home?		

SECTION 5

For each group of people, please answer all three questions.

Please circle your answer.

		Do you think this group is more likely to have HIV/AIDS than the average person?		Would you partly blame this group for the spread of HIV/AIDS in Ghana?		Would you consider yourself a member of this group?	
101	People who have many sexual partners	Yes	No	Yes	No	Yes	No
102	Prostitutes and other sex workers	Yes	No	Yes	No	Yes	No
103	Drug users	Yes	No	Yes	No	Yes	No
104	People who drink too much alcohol	Yes	No	Yes	No	Yes	No
105	Young men	Yes	No	Yes	No	Yes	No
106	People who keep it a secret that they have HIV	Yes	No	Yes	No	Yes	No
107	Illiterate and uneducated people	Yes	No	Yes	No	Yes	No
108	Anyone who doesn't practise safe sex	Yes	No	Yes	No	Yes	No
109	People who can't control their sexual urges	Yes	No	Yes	No	Yes	No
110	Young women	Yes	No	Yes	No	Yes	No
111	Men who have girlfriends as well as wives	Yes	No	Yes	No	Yes	No
112	Poor people	Yes	No	Yes	No	Yes	No
113	People who follow Western ways of behaving	Yes	No	Yes	No	Yes	No

		Do you think this group is more likely to have HIV/AIDS than the average person?	Would you partly blame this group for the spread of HIV/AIDS in Ghana?	Would you consider yourself a member of this group?
114	People who have sex in foreign countries and then come back to Ghana	Yes No	Yes No	Yes No
115	People who haven't been educated about HIV/AIDS	Yes No	Yes No	Yes No
116	Truck drivers	Yes No	Yes No	Yes No
117	Immoral people	Yes No	Yes No	Yes No
118	People who live in the cities	Yes No	Yes No	Yes No
119	Migrants who have come to Ghana from neighbouring countries	Yes No	Yes No	Yes No
120	People who don't follow God's laws	Yes No	Yes No	Yes No
121	Gay men	Yes No	Yes No	Yes No
122	Foreigners living in Ghana	Yes No	Yes No	Yes No
123	Immoral people	Yes No	Yes No	Yes No
124	People from the ages of 25 to 40	Yes No	Yes No	Yes No
125	Young people	Yes No	Yes No	Yes No
126	People who live in the villages away from the city	Yes No	Yes No	Yes No
127	Tourists	Yes No	Yes No	Yes No
128	People who have abandoned traditional values and ways of life	Yes No	Yes No	Yes No

SECTION 6

In these questions, we are interested in attitudes towards different sexual practices.
We want to know what <u>you personally</u> think about someone who does this thing - whether your attitude to the person is generally good or generally bad.
We also want to know what the attitude is of <u>young people generally</u> in the community you live in (family, friends, neighbours, people at school, college or work etc.).
We have given you some examples of why young people might feel the practice is good or bad.
Please tick the box for your answer.

129	**Someone who keeps a supply of condoms at home:** **What do you think?** ☐ Generally good (e.g. wise, good, sensible, responsible) ☐ Generally bad (e.g. immoral, not to be trusted, desperate) **What do young people generally think?** ☐ Generally good (e.g. wise, good, sensible, responsible) ☐ Generally bad (e.g. immoral, not to be trusted, desperate)
131	**Someone who takes condoms to a party in case she or he has sex?** **What do you think?** ☐ Generally good (e.g. looking after self and others, wise, sensible) ☐ Generally bad (e.g. cheap, prostitute, desperate) **What do young people generally think?** ☐ Generally good (e.g. looking after self and others, wise, sensible) ☐ Generally bad (e.g. cheap, prostitute, desperate)
133	**A couple who agree not to have sex until they are married** **What do you think?** ☐ Generally good (e.g. decent, chaste, responsible, it's their choice) ☐ Generally bad (e.g. dull, old fashioned, boring, not really in love) **What do young people generally think?** ☐ Generally good (e.g. decent, chaste, responsible, it's their choice) ☐ Generally bad (e.g. dull, old fashioned, boring, not really in love)
135	**Someone who has sex with someone they have only just met** **What do you think?** ☐ Generally good (e.g. exciting, sexy, enjoying life, cool) ☐ Generally bad (e.g. foolish, prostitute, stupid, cheap) **What do young people generally think?** ☐ Generally good (e.g. exciting, sexy, enjoying life, cool) ☐ Generally bad (e.g. foolish, prostitute, stupid, cheap)

137	**Someone who insists on using a condom with a steady girl/boyfriend** **What do you think?** ☐ Generally good (e.g. sensible, responsible, considerate) ☐ Generally bad (e.g. silly, dull, coward, no trust) **What do young people generally think?** ☐ Generally good (e.g. sensible, responsible, considerate) ☐ Generally bad (e.g. silly, dull, coward, no trust)
139	**Someone who is young but has had sex with a lot of different people** **What do you think?** ☐ Generally good (e.g. champion, mentor, hard core) ☐ Generally bad (e.g. cheap, fool, no self control, immoral) **What do young people generally think?** ☐ Generally good (e.g. champion, mentor, hard core) ☐ Generally bad (e.g. cheap, fool, no self control, immoral)
141	**Someone who has sex without a condom with someone they don't know** **What do you think?** ☐ Generally good (e.g. exciting, sexy, hard core) ☐ Generally bad (e.g. stupid, irresponsible, foolish) **What do young people generally think?** ☐ Generally good (e.g. exciting, sexy, hard core) ☐ Generally bad (e.g. stupid, irresponsible, foolish)
143	**Someone who asks a new sexual partner if they have HIV or other sexual diseases before they have sex** **What do you think?** ☐ Generally good (e.g. being sensible, wise, has a right to protect self) ☐ Generally bad (e.g. intrusive, not trusting, asking too much) **What do young people generally think?** ☐ Generally good (e.g. being sensible, wise, has a right to protect self) ☐ Generally bad (e.g. intrusive, not trusting, asking too much)
145	**Someone who has sex with a prostitute or who has sex in return for gifts** **What do you think?** ☐ Generally good (e.g. daring, experienced, sexy) ☐ Generally bad (e.g. abnormal, desperate, crazy) **What do young people generally think?** ☐ Generally good (e.g. daring, experienced, sexy) ☐ Generally bad (e.g. abnormal, desperate, crazy)

SECTION 7

Please put a tick in the box for your answer.

		TRUE	FALSE
147	HIV/AIDS in Ghana is really only a problem for those people on the edges of society - like prostitutes and drug addicts		
148	Drugs can cure you of HIV provided you take them soon after you get infected		
149	People like me are reasonably safe from HIV/AIDS, even if we have sex without a condom		
150	I often think about the importance of protecting myself against HIV/AIDS		
151	Once a person gets HIV, they tend to lose everything that's important in life - job, family, friends etc.		
152	It's possible that one day I will get infected with HIV		
153	Washing yourself carefully after sex protects you against HIV infection		
154	If I got HIV, my life would be ruined		
155	Compared to most other people my age, I am at less risk of getting HIV from unprotected sex		
156	I worry a lot about catching HIV		
157	Toilet seats can get infected with HIV		
158	I feel reasonably safe from HIV/AIDS because not that many people I know have got it		
159	HIV/AIDS doesn't happen to people like me		
160	AIDS usually means a long and painful death		
161	If I had unsafe sex, I would be very worried afterwards that I might be infected with HIV/AIDS		
162	If a person in Ghana doesn't practise safe sex, they are more likely than not to catch HIV within 5 years		

		TRUE	FALSE
163	Sharing food with someone with HIV puts you at risk of infection		
164	The adverts about HIV/AIDS have made me worried about getting infected		
165	Even if you have sex without a condom, your chances of catching HIV/AIDS in Ghana are not that high		
166	You can get HIV if a cut or wound comes into contact with the blood of an infected person		
167	I think the risks of catching HIV/AIDS are exaggerated		
168	You can usually tell who has HIV because they don't look healthy		
169	You can catch HIV from sharing cups and spoons with an infected person		
170	The rate of new cases of HIV/AIDS infection is going down in Ghana		
171	People worry too much about catching HIV		
172	The drugs used to combat HIV have many unpleasant side effects		
173	You can catch HIV from coughs and sneezes from a person with HIV		
174	I am confident they will find a cure for HIV/AIDS in the next five to ten years		
175	HIV won't be transmitted if the man withdraws before ejaculation		
176	You can have a long and happy life even if you have HIV		

END

Please place your completed questionnaire in the envelope provided and seal the envelope.

Thank you for taking the time to complete the questionnaire.

Appendix H

SCORING KEY FOR HIV/AIDS QUESTIONNAIRE

General:

Score answers as 1 or 0
Options for dealing with unanswered items in calculating totals:

- Randomly allocate answer?
- Instead of using total, use total divided by number of completed answers for that construct?
- Don't just leave unanswered items as blank or score as 99 - because this will result in inaccurate totals

A: SOCIAL-COGNITIVE MODELS

(Health Beliefs Model, Theory of Planned Behaviour)

Threat Appraisal

Total threat appraisal score = sum of four component scores
Higher score = appraisal of greater threat

- Appraisal of general risk: 147 (F=1), 162 (T=1), 165 (F=1), 167(F=1), 170(F=1)
- Appraisal of personal risk: 149 (F=1), 152 (T=1),155 (F=1), 158 (F=1), 159(F=1)
- Affective reaction: 150 (T=1), 156 (T=1), 161 (T=1), 164 (T=1), 171 (F=1)
- Perceived severity of consequences: 148 (F=1), 151 (T=1), 154 (T=1), 160 (T=1), 172 (T=1), 174 (F=1), 176 (F=1)

Risk-taking (NB not established part of social-cognitive models)

Higher score = more prepared to take risks in relation to condom use

QQ 43-48: Yes = 1, No = 0

Negative Outcome Expectancies Associated with Condom Use

Higher score = expectation of more negative outcomes

1 (T=1), 2 (T=1), 5 (T=1), 6 (T=1), 7 (T=1), 8 (T=1), 10 (T=1), 12 (T=1), 14 (T=1), 16 (T=1), 17 (T=1), 20 (T=1), 22 (T=1), 23 (T=1), 24 (T=1), 25 (T=1), 27 (T=1), 28 (T=1)

Positive Outcome Expectancies Associated with Condom Use

Higher score = expectation of more positive outcomes

3 (T=1), 11 (T=1), 13 (F=1), 18 (F=1)

Self-efficacy in condom use

Higher score = greater belief in own ability to overcome obstacles to condom use

QQ 35-42: Yes = 1 No = 0

Appendix H

Subjective Norms

Higher score = greater influence of significant others in favour of condom use
Lower score = greater influence of significant others against condom use

Questions 29-33, two parts to each question

Score 1 if answer is F to the first part, but T to the second part
Score 2 if answer is T to the first part, but F to the second part
Score 2 if the answer is F to the first part, but T to the second part
Score 3 if answer is T to both parts of each question

Social values (NB not established part of social cognitive models)

(i) Own values

High score = own values strongly support safe sexual practices

Score 1 for 'generally good' (0 for 'generally bad') for items 129, 131, 133, 137, 143
Score 1 for 'bad' (0 for 'good') for items 135, 139, 141, 145

(ii) Perceived values of young people generally

High score = perceived values of young people strongly support safe sexual practices

Score 1 for 'generally good' (0 for 'generally bad') for items 129, 131, 133, 137, 143
Score 1 for 'bad' (0 for 'good') for items 135, 139, 141, 145

B: MODELS INVOLVING PSYCHOLOGICAL DISTANCING

Beliefs about origins of HIV/AIDS

Higher score = more beliefs that distance self from the disease

4 (T=1), 9 (T=1), 15 (T=1), 19 (T=1), 21 (T=1), 26 (F=1)

Beliefs about the role of different social groups in the spread of HIV/AIDS

(i) Belonging to vulnerable groups

Higher score = perceived membership of fewer vulnerable groups

QQ 101-128:

- Score 0 for each item to which the participant has said 'Yes' to both part A ("Do you think this group is more likely to have HIV/AIDS than the average person?") and to part C ("Would you consider yourself a member of this group?").
- Score 0 for each item to which the participant has said 'No' to both parts A

and C.
- Otherwise score 1 for each item (i.e. if 'Yes' to A and 'No' to C, or if 'No' to A and 'Yes' to C)

(ii) Blaming out-groups

Higher score = higher tendency to blame out-groups for spread

QQ 101-128:
- Score 1 if 'Yes' to part B ("Would you partly blame this group for the spread of HIV/AIDS in Ghana?") and 'No' to part C
- Otherwise score 0 for the item

Stigmatising attitudes

Higher score = higher tendency to stigmatise the disease

QQ 49-80:
T=1 F=0 for 49, 50, 51, 52, 53, 54, 55, 56, 58, 59, 60, 61, 62, 63, 64, 65, 67, 68, 69, 70, 71, 72, 74, 75, 77, 78

T=0 F=1 for 57, 66, 73, 76, 79, 80

C: INTENDED AND ACTUAL SEXUAL BEHAVIOURS

Intended practice of safe sex

Higher score = intention to practice safe sex

Yes = 1 No = 0 for items 91 to 100

Ever had sex

Item 81: Create a group variable: 0 = never had sex; 1 = had sex

Actual practice of safe sex

Higher score = sexual practice has been safer

Yes = 0, No =1 for items 82, 83, 84, 85

Yes = 1, No =0 for items 86, 87, 88, 89, 90

For question 86, if they have ticked that they have not had sex with a steady girlfriend/boyfriend, score as 0
For question 87, if they have ticked that they have not had casual sex, score as 1

Code no.:_____

HIV/AIDS QUESTIONNAIRE

Thank you for agreeing to take part in this research. We hope that a better understanding of young people's attitudes towards HIV/AIDS will help improve public education programmes.

You will be asked some private and sensitive questions. Please answer these honestly. The confidentiality of your answers is guaranteed. We will not keep any record of your name on these questionnaires - SO THERE IS NO WAY THAT YOUR ANSWERS CAN BE TRACED BACK TO YOU.

There is a code number at the top of this questionnaire. If you change your mind and do not want us to use your answers in the research, please contact Dinah Baah-Odoom on [redacted] within 24 hours, give her this code number and she will destroy the questionnaire you have completed.

Please give honest answers. Tell us what you really think. There are no right or wrong answers.

Please answer all questions. Sometimes you may not be sure about your answer. Just choose the answer that is closest to what you think.

ABOUT YOURSELF

Age: _____ years

Marital status: [ ] single [ ] married

Gender: [ ] Male [ ] Female

Ethnicity: [ ] Akan [ ] Ga and Dangme [ ] Ewe [ ] Dagomba

[ ] Other (please say what) _____

Religion: [ ] Christian [ ] Muslim

[ ] Other (please say what) _____

Parents occupation: Father _____ Mother _____

Do you know anyone personally with HIV/AIDS? [ ] Yes [ ] No

SECTION 1

Please put a tick in the box for your answer.

		TRUE	FALSE
1	Buying condoms is embarrassing		
2	My girlfriend/boyfriend would not like me to keep a supply of condoms at home		
3	Using condoms will protect me against HIV		
4	I feel that people generally treat me with the respect I deserve.		
5	HIV/AIDS first started because of people having sex with infected animals		
6	Condoms reduce the pleasure you get from sex		
7	It is difficult for me to get enough money to buy condoms		
8	Using condoms during sex is embarrassing		
9	Not using a condom shows how much you love and trust your girlfriend/boyfriend		
10	I feel that people generally treat each other fairly in life.		
11	HIV/AIDS probably began in Europe or America		
12	If I asked to use a condom, my girlfriend/boyfriend will think I don't trust her/him		
13	If I kept a supply of condoms at home, I would worry that someone would find them		
14	Stopping sex to put on a condom spoils the mood		
15	I feel that people generally treat each other with the respect they deserve.		
16	HIV/AIDS started because people abandoned their traditional values and way of life		
17	I would feel less of a man/woman if I used a condom during sex		
18	Condoms are messy and unpleasant to use		
19	HIV/AIDS first started because of homosexuals having sex with each other		

		TRUE	FALSE
20	I feel that when I meet with misfortune, I have generally brought it upon myself.		
21	If I wanted to use a condom, my girlfriend/ boyfriend would think I'd been sleeping around		
22	HIV/AIDS is God's punishment for the wrong that people have done		
23	It's difficult to start talking about using a condom when you are having sex with someone		
24	When you don't use a condom, it shows that your girlfriend/boyfriend is very special to you		
25	I would feel ashamed buying condoms		
26	I feel that I generally get what I deserve in life.		
27	Asking to use a condom causes bad feeling in a relationship		
28	HIV/AIDS probably began in Africa		
29	Condoms get in the way of good sex		
30	I feel that people generally get what they are entitled to have in life.		
31	If I asked to use a condom, the other person would think I've got HIV or some other sexual disease		

SECTION 2

Please tick what you think of each statement

32	I can always manage to solve difficult problems if I try hard enough.	definitely false	mostly false	mostly true	very true
33	If someone opposes me, I can find the means and ways to get what I want.	definitely false	mostly false	mostly true	very true
34	It is easy for me to stick to my aims and accomplish my goals.	definitely false	mostly false	mostly true	very true
35	I am confident that I could deal efficiently with unexpected events.	definitely false	mostly false	mostly true	very true
36	Thanks to my resourcefulness, I know how to handle unforeseen situations.	definitely false	mostly false	mostly true	very true

37	I can solve most problems if I invest the necessary effort.	definitely false	mostly false	mostly true	very true
38	I can remain calm when facing difficulties because I can rely on my coping abilities.	definitely false	mostly false	mostly true	very true
39	When I am confronted with a problem, I can usually find several solutions.	definitely false	mostly false	mostly true	very true
40	If I am in trouble, I can usually think of a solution.	definitely false	mostly false	mostly true	very true
41	I can usually handle whatever comes my way.	definitely false	mostly false	mostly true	very true

SECTION 3

Suppose that you have decided that you want to use condoms when having sex to protect yourself against HIV. Suppose that a situation arises where you could have sex.
In what situations might you go ahead and, despite your decision, have sex without a condom?
Please tick the box for your answer.

Might you go ahead and have sex without a condom:

		Yes	No
42	If you didn't have enough money to buy a condom?		
43	If you found it embarrassing or shameful to buy condoms?		
44	If you didn't have a condom with you when the opportunity for sex arose?		
45	If you were in the middle of sex and had to stop for the condom to be put on		
46	If it was difficult or embarrassing to talk with the other person about using a condom?		
47	If you thought the other person might get upset or annoyed, or might refuse to have sex, if you asked to use a condom?		
48	If the other person made fun of you for wanting to use a condom?		
49	If the other person refused to use a condom?		

SECTION 4

Please tick the box for your answer

		TRUE	FALSE
50	If someone in my house got HIV, I would want them to move out to another house		
51	Foreigners should be made to take a HIV test before they are allowed into Ghana		
52	I feel that when people meet with misfortune, they have generally brought it upon themselves.		
53	I would be upset if someone with HIV/AIDS came to live next door to me		
54	People with HIV should not be allowed to work as teachers		
55	God is angry with those who have AIDS		
56	I would not tell my sexual partner if I caught HIV		
57	I feel that the world generally treats me fairly.		
58	I wouldn't make friends with someone who I knew to have HIV		
59	People who test positive for HIV should be made to declare this when they go for a job interview		
60	I would be willing to share a meal with someone who has AIDS		
61	I would feel ashamed if I caught HIV		
62	People with HIV should be isolated so that they cannot spread the disease		
63	I feel that people generally earn the rewards and punishments they get.		
64	I feel angry when I think of people with HIV/AIDS		
65	I don't feel comfortable in the company of people with HIV/AIDS		
66	People who catch HIV are, by and large, selfish and irresponsible		

		TRUE	FALSE
67	Employers should have the right to dismiss any employee who tests positive for HIV		
68	Leaving aside children, people with AIDS are mostly bad people		
69	I feel that my own efforts are generally noticed and rewarded.		
70	People with HIV/AIDS are a bad influence on society		
71	If someone in my family had HIV, I would let them use the same cups, spoons and plates as me		
72	People with HIV bring shame on their family		
73	All sex workers and homosexuals should be made to take regular HIV tests		

74	People who catch HIV because of unprotected sex deserve what they get		
75	Workers should be told the names of any of their work colleagues who have HIV		
76	HIV/AIDS is a punishment from God		
77	I feel that the world generally treats people fairly.		
78	People with HIV should be ashamed of themselves		
79	If a friend caught HIV, I would still want to spend time with them and to go out with them		
80	People with HIV should not be allowed to work with children		
81	If I tested positive for HIV, I would keep it a secret from my family and friends		
82	I feel pity for people with AIDS		
83	Students at a school or college should be given the names of any other students or teachers who have HIV		
84	By and large, people with HIV/AIDS have only themselves to blame		
85	I would be willing to care for someone in my family who had AIDS		
86	I would buy fruit and vegetables from someone, even if I knew they had HIV		

SECTION 5

From each pair of statements, pick the one that best describes what you think and mark it by ticking the (a) or (b).
Tick only one letter in each pair.

87	(a) Many of the unhappy things in people's lives are partly due to bad luck (b) People's misfortunes result from the mistakes they make
88	(a) In the long run people get the respect they deserve in this world (b) Unfortunately, an individual's worth often passes unrecognised no matter how hard they try
89	(a) Heredity plays the major role in determining one's personality (b) It is your experiences in life which determine what you're like.
90	(a) I have often found that what is going to happen will happen. (b) I have found it best to make things happen rather than to trust to fate
91	(a) In my case getting what I want has little or nothing to do with luck. (b) Many times we might just as well decide what to do by flipping a coin.
92	(a) Becoming a success is a matter of hard work - luck has little or nothing to do with it. (b) Getting a good job depends mainly on being in the right place at the right time.
93	(a) When I make plans, I am almost certain that I can make them work (b) It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
94	(a) Most people don't realize the extent to which their lives are controlled by accidental happenings. (b) There really is no such thing as "luck."
95	(a) In the long run the bad things that happen to us are balanced by the good ones. (b) Most misfortunes are the result of lack of ability, ignorance, laziness, or all three
96	(a) Sometimes I can't understand how teachers arrive at the grades they give (b) There is a direct connection between how hard I study and the grades I get.
97	(a) Many times I feel that I have little influence over the things that happen to me (b) It is impossible for me to believe that chance or luck plays an important role in my life.

98	(a) What happens to me is my own doing (b) Sometimes I feel that I don't have enough control over the direction my life is taking.

SECTION 6

Suppose you had an opportunity for sex, but did not have a condom with you and could not get one in time:

Might you go ahead and have sex without a condom:

		Yes	No
99	If the other person told you they did not have HIV/AIDS or any other sexual disease?		
100	If the other person looked healthy and well?		
101	If the other person was a good person from a good family?		
102	If you had known the other person for a long time?		
103	If you knew the other person had not always practised safe sex in the past?		
104	If you thought the other person might have HIV?		

SECTION 7

These questions are about sex where the participants were willing partners. In answering questions about what you have done, please do not include instances in which sex was forced on you.
'Sex' in the questions means vaginal, oral or anal penetration.
Please put a tick in the box for your answer.
Please be honest in your answers.
Remember - there is no way that your answers can be traced back to you

		Yes	No
105	Have you ever had sex?		
	If you answered 'no' to Question 105 please leave out Questions 106-116 and go straight to Question 117 on the next page.		
106	Have you ever had sex with someone other than a steady girlfriend/boyfriend?		
107	Have you ever had sex with someone you didn't know very well or had only just met?		

		Yes	No
108	Have you had three or more sexual partners in the past 12 months?		
109	Have you ever had sex with a prostitute or other sex worker?		
110	Have you ever had sex without using a condom?		
111	Have you ever used a condom when having sex?		
112	Have you always used a condom when having sex with your steady girlfriend / boyfriend? *If you have not had sex with a steady girl/boyfriend, please tick here [ ] and leave this question blank*		
113	Have you always used a condom when having casual sex (i.e. sex that is not with a steady girl/boyfriend)? *If you have not had casual sex, please tick here [ ] and leave this question blank*		
114	Have you ever taken condoms with you to situations like parties or being alone with your partner - just in case you had unplanned sex?		
115	Have you ever asked another person, before having sex with them, whether they might have HIV or other sexual diseases?		
116	Have you ever kept a supply of condoms at home?		

	Start here again if you missed out Questions 106-116	Yes	No
117	Do you intend to avoid sex in the future until you are married?		
118	In the future, do you intend to avoid having casual sex (i.e. sex with someone other than a steady girlfriend/boyfriend)?		
119	In the future, do you intend to avoid having sex with someone you don't know very well or have only just met?		
120	In the future, do you intend to avoid having sex with many different partners?		
121	In the future, do you intend to avoid having sex with a prostitute or other sex worker?		
122	In the future, do you intend always to use a condom when having sex with your steady girlfriend/ boyfriend until you want to have children?		

		Yes	No
123	In the future, do you intend always to use a condom if you were to have casual sex (i.e. sex with someone other than a steady girl/boyfriend)?		
124	In the future, do you intend to take condoms with you to situations like parties or being alone with your partner - just in case you have unplanned sex?		
125	In the future, do you intend to ask any new sexual partner, before having sex with them, whether they might have HIV or other sexual diseases?		
126	In the future, would you consider keeping a supply of condoms at home?		

SECTION 8

Please circle your answer. For each group answer the following question:

Would you partly blame this group for the spread of HIV/AIDS in Ghana?

127	People who have many sexual partners	Yes	No
128	Prostitutes and other sex workers	Yes	No
129	Drug users	Yes	No
130	Young men	Yes	No
131	People who keep it a secret that they have HIV	Yes	No
132	People who engage in unnatural sexual practices	Yes	No
133	Illiterate and uneducated people	Yes	No
134	Young women	Yes	No
135	Poor people	Yes	No
136	Immoral people	Yes	No
137	Migrants who have come to Ghana from neighbouring countries	Yes	No
138	Gay men / Homosexuals	Yes	No
139	Foreigners living in Ghana	Yes	No

SECTION 9

Please put a tick in the box for your answer.

		TRUE	FALSE
140	HIV/AIDS in Ghana is really only a problem for those people on the edges of society - like prostitutes and drug addicts		
141	Drugs can cure you of HIV provided you take them soon after you get infected		
142	I feel that I generally get what I am entitled to have in life.		
143	People like me are reasonably safe from HIV/AIDS, even if we have sex without a condom		
144	I often think about the importance of protecting myself against HIV/AIDS		
145	Once a person gets HIV, they tend to lose everything that's important in life - job, family, friends etc.		
146	It's possible that one day I will get infected with HIV		
147	I feel that a person's efforts are generally noticed and rewarded.		
148	If I got HIV, my life would be ruined		
149	Compared to most other people my age, I am at less risk of getting HIV from unprotected sex		
150	I worry a lot about catching HIV		
151	I feel reasonably safe from HIV/AIDS because not that many people I know have got it		
152	HIV/AIDS doesn't happen to people like me		
153	AIDS usually means a long and painful death		
154	If I had unsafe sex, I would be very worried afterwards that I might be infected with HIV/AIDS		
155	I feel that people generally get what they deserve in life.		
156	If a person in Ghana doesn't practise safe sex, they are more likely than not to catch HIV within 5 years		

		TRUE	FALSE
157	The adverts about HIV/AIDS have made me worried about getting infected		
158	Even if you have sex without a condom, your chances of catching HIV/AIDS in Ghana are not that high		
159	I feel that I generally earn the rewards and punishments I get.		
160	I think the risks of catching HIV/AIDS are exaggerated		
161	The rate of new cases of HIV/AIDS infection is going down in Ghana		
162	People worry too much about catching HIV		
163	The drugs used to combat HIV have many unpleasant side effects		
164	I feel that people generally treat me fairly in life.		
165	I am confident they will find a cure for HIV/AIDS in the next five to ten years		
166	You can have a long and happy life even if you have HIV		

END

Please place your completed questionnaire in the envelope provided and seal the envelope.

Thank you for taking the time to complete the questionnaire.

Code no.: _____

HIV/AIDS QUESTIONNAIRE

Thank you for agreeing to take part in this research. We hope that a better understanding of young people's attitudes towards HIV/AIDS will help improve public education programmes.

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Please give honest answers. Tell us what you really think. There are no right or wrong answers.

Please answer all questions. Sometimes you may not be sure about your answer. Just choose the answer that is closest to what you think.

ABOUT YOURSELF

Age: _____ years

Marital status: [ ] single [ ] married

Gender: [ ] Male [ ] Female

Ethnicity: [ ] White [ ] Black-Caribbean [ ] Black-African [ ] Indian
[ ] Pakistani [ ] Bangladeshi [ ] Chinese [ ] Other

Religion: [ ] Christian [ ] Muslim

[ ] Other (please say what) _____

Parents' occupation: Father _____ Mother _____

Do you know anyone personally with HIV/AIDS? [ ] Yes [ ] No

SECTION 1

Please put a tick in the box for your answer.

		TRUE	FALSE
1	Buying condoms is embarrassing		
2	My girlfriend/boyfriend would not like me to keep a supply of condoms at home		
3	Using condoms will protect me against HIV		
4	I feel that people generally treat me with the respect I deserve.		
5	HIV/AIDS first started because of people having sex with infected animals		
6	Condoms reduce the pleasure you get from sex		
7	It is difficult for me to get enough money to buy condoms		
8	Using condoms during sex is embarrassing		
9	Not using a condom shows how much you love and trust your girlfriend/boyfriend		
10	I feel that people generally treat each other fairly in life.		
11	HIV/AIDS probably began in Europe or America		
12	If I asked to use a condom, my girlfriend/boyfriend will think I don't trust her/him		
13	If I kept a supply of condoms at home, I would worry that someone would find them		
14	Stopping sex to put on a condom spoils the mood		
15	I feel that people generally treat each other with the respect they deserve.		
16	HIV/AIDS started because people abandoned their traditional values and way of life		
17	I would feel less of a man/woman if I used a condom during sex		
18	Condoms are messy and unpleasant to use		

19	HIV/AIDS first started because of homosexuals having sex with each other		
		TRUE	**FALSE**
20	I feel that when I meet with misfortune, I have generally brought it upon myself.		
21	If I wanted to use a condom, my girlfriend/ boyfriend would think I'd been sleeping around		
22	HIV/AIDS is God's punishment for the wrong that people have done		
23	It's difficult to start talking about using a condom when you are having sex with someone		
24	When you don't use a condom, it shows that your girlfriend/boyfriend is very special to you		
25	I would feel ashamed buying condoms		
26	I feel that I generally get what I deserve in life.		
27	Asking to use a condom causes bad feeling in a relationship		
28	HIV/AIDS probably began in Africa		
29	Condoms get in the way of good sex		
30	I feel that people generally get what they are entitled to have in life.		
31	If I asked to use a condom, the other person would think I've got HIV or some other sexual disease		

SECTION 2

Please tick what you think of each statement

32	I can always manage to solve difficult problems if I try hard enough.	definitely false	mostly false	mostly true	very true
33	If someone opposes me, I can find the means and ways to get what I want.	definitely false	mostly false	mostly true	very true
34	It is easy for me to stick to my aims and accomplish my goals.	definitely false	mostly false	mostly true	very true

35	I am confident that I could deal efficiently with unexpected events.	definitely false	mostly false	mostly true	very true
36	Thanks to my resourcefulness, I know how to handle unforeseen situations.	definitely false	mostly false	mostly true	very true
37	I can solve most problems if I invest the necessary effort.	definitely false	mostly false	mostly true	very true
38	I can remain calm when facing difficulties because I can rely on my coping abilities.	definitely false	mostly false	mostly true	very true
39	When I am confronted with a problem, I can usually find several solutions.	definitely false	mostly false	mostly true	very true
40	If I am in trouble, I can usually think of a solution.	definitely false	mostly false	mostly true	very true
41	I can usually handle whatever comes my way.	definitely false	mostly false	mostly true	very true

SECTION 3

Suppose that you have decided that you want to use condoms when having sex to protect yourself against HIV. Suppose that a situation arises where you could have sex. In what situations might you go ahead and, despite your decision, have sex without a condom? Please tick the box for your answer.

Might you go ahead and have sex without a condom:

		Yes	No
42	If you didn't have enough money to buy a condom?		
43	If you found it embarrassing or shameful to buy condoms?		
44	If you didn't have a condom with you when the opportunity for sex arose?		
45	If you were in the middle of sex and had to stop for the condom to be put on		
46	If it was difficult or embarrassing to talk with the other person about using a condom?		
47	If you thought the other person might get upset or annoyed, or might refuse to have sex, if you asked to use a condom?		
48	If the other person made fun of you for wanting to use a condom?		
49	If the other person refused to use a condom?		

SECTION 4

Please tick the box for your answer

		TRUE	FALSE
50	If someone in my house got HIV, I would want them to move out to another house		
51	Foreigners should be made to take a HIV test before they are allowed into the U.K.		
52	I feel that when people meet with misfortune, they have generally brought it upon themselves.		
53	I would be upset if someone with HIV/AIDS came to live next door to me		
54	People with HIV should not be allowed to work as teachers		
55	God is angry with those who have AIDS		
56	I would not tell my sexual partner if I caught HIV		
57	I feel that the world generally treats me fairly.		
58	I wouldn't make friends with someone who I knew to have HIV		
59	People who test positive for HIV should be made to declare this when they go for a job interview		
60	I would be willing to share a meal with someone who has AIDS		
61	I would feel ashamed if I caught HIV		
62	People with HIV should be isolated so that they cannot spread the disease		
63	I feel that people generally earn the rewards and punishments they get.		
64	I feel angry when I think of people with HIV/AIDS		
65	I don't feel comfortable in the company of people with HIV/AIDS		
66	People who catch HIV are, by and large, selfish and irresponsible		
		TRUE	**FALSE**

67	Employers should have the right to dismiss any employee who tests positive for HIV		
68	Leaving aside children, people with AIDS are mostly bad people		
69	I feel that my own efforts are generally noticed and rewarded.		
70	People with HIV/AIDS are a bad influence on society		
71	If someone in my family had HIV, I would let them use the same cups, spoons and plates as me		
72	People with HIV bring shame on their family		
73	All sex workers and homosexuals should be made to take regular HIV tests		

74	People who catch HIV because of unprotected sex deserve what they get		
75	Workers should be told the names of any of their work colleagues who have HIV		
76	HIV/AIDS is a punishment from God		
77	I feel that the world generally treats people fairly.		
78	People with HIV should be ashamed of themselves		
79	If a friend caught HIV, I would still want to spend time with them and to go out with them		
80	People with HIV should not be allowed to work with children		
81	If I tested positive for HIV, I would keep it a secret from my family and friends		
82	I feel pity for people with AIDS		
83	Students at a school or college should be given the names of any other students or teachers who have HIV		
84	By and large, people with HIV/AIDS have only themselves to blame		
85	I would be willing to care for someone in my family who had AIDS		
86	I would buy fruit and vegetables from someone, even if I knew they had HIV		

SECTION 6

Suppose you had an opportunity for sex, but did not have a condom with you and could not get one in time:

Might you go ahead and have sex without a condom:

		Yes	No
99	If the other person told you they did not have HIV/AIDS or any other sexual disease?		
100	If the other person looked healthy and well?		
101	If the other person was a good person from a good family?		
102	If you had known the other person for a long time?		
103	If you knew the other person had not always practised safe sex in the past?		
104	If you thought the other person might have HIV?		

SECTION 7

These questions are about sex where the participants were willing partners. In answering questions about what you have done, please do not include instances in which sex was forced on you.
'Sex' in the questions means vaginal, oral or anal penetration.
Please put a tick in the box for your answer.
Please be honest in your answers.
Remember - there is no way that your answers can be traced back to you

		Yes	No
105	Have you ever had sex?		
	If you answered 'no' to Question 105 please leave out Questions 106-116 and go straight to Question 117 on the next page.		
106	Have you ever had sex with someone other than a steady girlfriend/boyfriend?		
107	Have you ever had sex with someone you didn't know very well or had only just met?		
		Yes	**No**

108	Have you had three or more sexual partners in the past 12 months?		
109	Have you ever had sex with a prostitute or other sex worker?		
110	Have you ever had sex without using a condom?		
111	Have you ever used a condom when having sex?		
112	Have you always used a condom when having sex with your steady girlfriend / boyfriend? *If you have not had sex with a steady girl/boyfriend, please tick here [ ] and leave this question blank*		
113	Have you always used a condom when having casual sex (i.e. sex that is not with a steady girl/boyfriend)? *If you have not had casual sex, please tick here [ ] and leave this question blank*		
114	Have you ever taken condoms with you to situations like parties or being alone with your partner - just in case you had unplanned sex?		
115	Have you ever asked another person, before having sex with them, whether they might have HIV or other sexual diseases?		
116	Have you ever kept a supply of condoms at home?		

	Start here again if you missed out Questions 106-116	**Yes**	**No**
117	Do you intend to avoid sex in the future until you are married?		
118	In the future, do you intend to avoid having casual sex (i.e. sex with someone other than a steady girlfriend/boyfriend)?		
119	In the future, do you intend to avoid having sex with someone you don't know very well or have only just met?		
120	In the future, do you intend to avoid having sex with many different partners?		
121	In the future, do you intend to avoid having sex with a prostitute or other sex worker?		
122	In the future, do you intend always to use a condom when having sex with your steady girlfriend/ boyfriend until you want to have children?		
		Yes	**No**

123	In the future, do you intend always to use a condom if you were to have casual sex (i.e. sex with someone other than a steady girl/boyfriend)?		
124	In the future, do you intend to take condoms with you to situations like parties or being alone with your partner - just in case you have unplanned sex?		
125	In the future, do you intend to ask any new sexual partner, before having sex with them, whether they might have HIV or other sexual diseases?		
126	In the future, would you consider keeping a supply of condoms at home?		

SECTION 8

Please circle your answer. For each group answer the following question:

Would you partly blame this group for the spread of HIV/AIDS in the U.K.?

127	People who have many sexual partners	Yes	No
128	Prostitutes and other sex workers	Yes	No
129	People who inject drugs	Yes	No
130	Young men	Yes	No
131	People who have unsafe sex even though they know they have HIV	Yes	No
132	People who engage in unnatural sexual practices	Yes	No
133	People who haven't been educated about HIV/AIDS	Yes	No
134	Young women	Yes	No
135	Anyone who practises unsafe sex	Yes	No
136	Immoral people	Yes	No
137	Immigrants and asylum seekers	Yes	No
138	Gay men	Yes	No
139	Government / people in authority	Yes	No

SECTION 9

Please put a tick in the box for your answer.

		TRUE	FALSE
140	HIV/AIDS in the U.K. is really only a problem for those people on the edges of society - like prostitutes and drug addicts		
141	Drugs can cure you of HIV provided you take them soon after you get infected		
142	I feel that I generally get what I am entitled to have in life.		
143	People like me are reasonably safe from HIV/AIDS, even if we have sex without a condom		
144	I often think about the importance of protecting myself against HIV/AIDS		
145	Once a person gets HIV, they tend to lose everything that's important in life - job, family, friends etc.		
146	It's possible that one day I will get infected with HIV		
147	I feel that a person's efforts are generally noticed and rewarded.		
148	If I got HIV, my life would be ruined		
149	Compared to most other people my age, I am at less risk of getting HIV from unprotected sex		
150	I worry a lot about catching HIV		
151	I feel reasonably safe from HIV/AIDS because not that many people I know have got it		
152	HIV/AIDS doesn't happen to people like me		
153	AIDS usually means a long and painful death		
154	If I had unsafe sex, I would be very worried afterwards that I might be infected with HIV/AIDS		
155	I feel that people generally get what they deserve in life.		

156	If a person in the U.K. doesn't practise safe sex, they are more likely than not to catch HIV within 5 years		
		TRUE	**FALSE**
157	Public information campaigns about HIV/AIDS have made me worried about getting infected		
158	Even if you have sex without a condom, your chances of catching HIV/AIDS in the U.K. are not that high		
159	I feel that I generally earn the rewards and punishments I get.		
160	I think the risks of catching HIV/AIDS are exaggerated		
161	The rate of new cases of HIV/AIDS infection is going down in the U.K.		
162	People worry too much about catching HIV		
163	The drugs used to combat HIV have many unpleasant side effects		
164	I feel that people generally treat me fairly in life.		
165	I am confident they will find a cure for HIV/AIDS in the next five to ten years		
166	You can have a long and happy life even if you have HIV		

END

Please place your completed questionnaire in the envelope provided and seal the envelope.

Thank you for taking the time to complete the questionnaire.